LIPPINCOTT LIBRARY
OCT 14 1959
GEOGRAPHY & INDUSTRY

EEI BULLETIN

In Two Sections • OCTOBER 1959 • Section 1

Action: The Realization

J. Theodore Wolfe

Light's 80th Birthday

World's Brightest Street

John D. Weber

EEI Committee Activities 1959-60

Board Committees

Customer, Employee and Investor Relations

Engineering and Operating

General

PUBLISHED BY EDISON ELECTRIC INSTITUTE

ELECTRICAL RESEARCH STATISTICS
THE ELECTRIC LIGHT AND POWER INDUSTRY

Current Statistical Data Covering 100 Per Cent of Industry

(Includes Investor-Owned Companies, Cooperatives, and Government-Owned Utilities)

May 1958-1959

SOURCE AND DISPOSAL OF ENERGY—MONTH OF MAY

	1959	1958	%
NET GENERATION* (Kwhrs in Thousands)			
By Fuel Burning Plants	45,923,982	37,573,993	+22.2
By Water Power Plants	11,737,408	13,609,044	−13.8
Total Generation	**57,661,390**	**51,183,037**	**+12.7**
ADD—Net Imports Over International Boundaries	493,125	218,983	+125.2
Less—Company Use	166,180	151,573	+ 9.6
Less—Energy Used by Producer	1,571,352	1,008,802	+55.8
Net Energy for Distribution	**56,416,983**	**50,241,645**	**+12.3**
Lost and Unaccounted for	6,007,367	5,534,330	+ 8.5
Sales to Ultimate Customers	**50,409,616**	**44,707,315**	**+12.8**

CLASSIFICATION OF SALES

NUMBER OF CUSTOMERS—As of May 31st			
Residential or Domestic	48,165,462	47,037,134	+ 2.4
Rural (Distinct Rural Rates)	1,642,133	1,656,711	− 0.9
Commercial or Industrial:			
Small Light and Power	6,326,839	6,245,601	+ 1.3
Large Light and Power	317,962	308,622	+ 3.0
Other Customers	191,215	184,445	+ 3.7
Total Ultimate Customers	**56,643,611**	**55,432,513**	**+ 2.2**
KILOWATTHOUR SALES—During Month of May (Kwhrs in Thousands)			
Residential or Domestic	12,975,359	12,172,717	+ 6.6
Rural (Distinct Rural Rates)	1,087,739	797,927	+36.3
Commercial or Industrial:			
Small Light and Power	8,673,281	7,782,114	+11.5
Large Light and Power	25,743,159	22,155,042	+16.2
Street and Highway Lighting	423,770	397,634	+ 6.6
Other Public Authorities	1,161,430	1,047,153	+10.9
Railroads and Railways	289,352	305,177	− 5.2
Interdepartmental	55,526	49,551	+12.1
Total to Ultimate Customers	**50,409,616**	**44,707,315**	**+12.8**
Revenue from Ultimate Customers (Thousands)	**$841,988**	**$768,636**	**+ 9.5**

RESIDENTIAL OR DOMESTIC SERVICE

AVERAGE CUSTOMER DATA—for 12 months ended May 31, 1959			
Kilowatthours per Customer	3,437	3,277	+ 4.9
Average Annual Bill	$86.61	$82.91	+ 4.5
Revenue per Kilowatthour	2.52¢	2.53¢	− 0.4

* By courtesy of the Federal Power Commission.

XU

THE EDISON ELECTRIC INSTITUTE BULLETIN is published monthly, except bi-monthly in July and August, by the Edison Electric Institute, an association of electric light and power companies in the United States and its territorial possessions. Its affiliate members consist of private electric utilities in North, Central and South America and contiguous islands in the Western Hemisphere.

The objectives of the Edison Electric Institute are:

The advancement in the public service of the art of producing, transmitting, and distributing electricity and the promotion of scientific research in such field.

The ascertainment and making available to the members and the public of factual information, data, and statistics relating to the electric industry.

To aid its operating company members to generate and sell electric energy at the lowest possible price commensurate with safe and adequate service, giving due regard to the interests of consumer, investor, and employee.

•

Closing date for the BULLETIN is the tenth of the month preceding the month of issue.

Manuscripts and correspondence relating to the BULLETIN should be addressed to the Editor, Edison Electric Institute, 750 Third Ave., New York 17, N. Y.

The Edison Electric Institute does not assume responsibility for, nor necessarily endorse or approve, statements made by contributors to the BULLETIN.

•

Subscription price of the BULLETIN is $3.00 per year in the United States; $4.00 per year in foreign countries.

Second-class postage paid at Philadelphia, Pa. Publication office, 56th and Chestnut Sts., Philadelphia 39, Pa. Editorial office, 750 Third Ave., New York 17, N. Y.

EEI BULLETIN

October, 1959

Volume 27 • No. 9

Articles, Speeches, Reports

2000 Members of EEI Committees Work Together for Industry, Public 327

Committees of the Board of Directors 328

Customer, Employee and Investor Relations Division Committees 331

Engineering and Operating Division Committees 333

General Division Committees 338

Area Development Workshop to Be Held in Phoenix 344

Action: the Realization
J. Theodore Wolfe 345

Light's 80th Birthday 351

The Brightest Street in the World
John D. Weber 353

News, Notes, Miscellany

Conventions and Meetings 326

Cost of Federal Projects with Power Installations 350

People in Power 355

CONVENTIONS AND MEETINGS

1959

OCTOBER

1- 2 EEI Transmission and Distribution Committee, Rice Hotel, Houston, Texas.

5- 6 EEI Electrical System & Equipment Committee, Hotel Muehlbach, Kansas City, Mo.

5- 7 AGA Annual Convention, Conrad Hilton Hotel, Chicago, Ill.

7 EEI Rural Electrification Committee, EEI Headquarters, New York, N. Y.

7- 9 Indiana Electric Association Annual Convention, French Lick-Sheraton Hotel, French Lick, Ind.

7- 9 Missouri Valley Electric Association Sales, Rural & Home Service Conference, President Hotel, Kansas City, Mo.

8- 9 EEI Electric Power Survey Committee, EEI Headquarters, New York, N. Y.

8- 9 PEA Structures and Hydraulics Committee Fall Meeting, Holiday Motor Hotel, Harrisburg, Pa.

11-16 AIEE Fall General Meeting, Morrison Hotel, Chicago, Ill.

11-16 ASTM 3rd Pacific Area National Meeting, Sheraton-Palace Hotel, San Francisco, Calif.

12-14 EEI Prime Movers Committee, Barringer Hotel, Charlotte, N. C.

12-15 NARUC Convention, Bellevue-Stratford Hotel, Philadelphia, Pa.

14-16 Wisconsin Utilities Association Operating & Sales Convention, Schroeder Hotel, Milwaukee, Wis.

15 EEI Residential Lighting Promotion Committee, Hopkins Airport Hotel, Cleveland, Ohio

15 Oklahoma Utilities Association Electric Light & Power Division Meeting, Western District, Lake Murray Lodge, Ardmore, Okla.

15-16 EEI Insurance Committee, Hotel Somerset, Boston, Mass.

15-16 PEA Systems Operation Committee Fall Meeting Joint with Communications Committee, The Pick-Roosevelt Hotel, Pittsburgh, Pa.

15-16 Southeastern Electric Exchange Engineering & Operation Section, Fall Meeting, Biltmore Hotel, Atlanta, Ga.

16 Oklahoma Utilities Association Electric Light & Power Division Meeting, Eastern District, Aldridge Hotel, McAlester, Okla.

20-22 EEI Sixth Annual Area Development Committee, Westward Ho Hotel, Phoenix, Ariz.

21-22 Electrical World Fourth Electric Heating and Heat Pump Conference, Chase-Park Plaza Hotels, St. Louis, Mo.

21-23 EEI-AGA Taxation Accounting Committees, Hotel Leamington, Minneapolis, Minn.

22-23 EEI Statistical Committee, The Homestead, Hot Springs, Va.

22-23 Southeastern Electric Exchange Accounting Conference, The Shoreham Hotel, Washington, D. C.

23 Oklahoma Utilities Association Accounting Section Meeting, Jens-Marie Hotel, Ponca City, Okla.

25-29 Rocky Mountain Electrical League 56th Annual Fall Convention, Broadmoor Hotel, Colorado Springs, Colo.

29-30 PEA Relay Committee Fall Meeting, Hotel Alexander, Hagerstown, Md.

NOVEMBER

2- 4 Atomic Industrial Forum Annual Conference, Sheraton Park Hotel, Washington, D. C.

4- 6 American Nuclear Society Winter Meeting, Sheraton Park Hotel, Washington, D. C.

4- 6 New Jersey Utilities Association Annual Meeting, Seaview Country Club, Absecon, N. J.

5- 6 Pacific Coast Electrical Association, Hawaiian Conference, Princess Kaiulani Hotel, Honolulu, Hawaii.

9-11 EEI Accident Prevention Committee, The Dennis Hotel, Atlantic City, N. J.

9-11 AEIC Annual Meeting, Boca Raton, Fla.

9-13 NEMA Annual Convention, Hotel Traymore, Atlantic City, N. J.

12-13 EEI Accounting Division Executive Committee, The Greenbrier, White Sulphur Springs, W. Va.

12-13 Electric Council of New England Third Annual Conference, Hotel Somerset, Boston, Mass.

12-13 PEA Transmission & Distribution Committee Fall Meeting, Penn Alto Hotel, Altoona, Pa.

16-17 Pacific Coast Electrical Association Administrative Services Conference, Palo Alto, Calif.

16-18 Southeastern Electric Exchange Sales Section, Roosevelt Hotel, New Orleans, La.

17-19 Building Research Institute Fall Conferences, The Shoreham Hotel, Washington, D. C.

18-20 Ohio Power Company Inter-Industry Farm Electric Utilization Council Annual Conference, Westward Ho Hotel, Phoenix, Ariz.

19-20 AGA Managing Committee Meeting, Westward Ho Hotel, Phoenix, Ariz.

29-Dec. 4 ASME Annual Meeting, Atlantic City, N. J.

30-Dec. 2 EEI-AGA Electronics Seminar, St. Francis Hotel, San Francisco, Calif.

DECEMBER

8-10 AIEE-NEMA Second National Conference on Application of Electrical Insulation, The Shoreham Hotel, Washington, D. C.

1960

JANUARY

21-26 PEA Systems Operation Committee, Philadelphia, Pa.

22 Oklahoma Utilities Association Accounting Section Meeting, Tulsa, Okla.

FEBRUARY

1- 4 Fourth National Industrial Electrification Heating Conference, Netherland Hilton Hotel, Cincinnati, Ohio

1- 5 ASTM Committee Week, Hotel Sherman, Chicago, Ill.

8- 9 Missouri Valley Electric Association Industrial & Commercial Sales Conference, President Hotel, Kansas City, Mo.

15-16 EEI-AGA Accounting Conference Final Working Meeting, Sheraton-Cadillac Hotel, Detroit, Mich.

29-Mar. 1 Pacific Coast Electrical Association Business Development Conference, Lafayette Hotel, Long Beach, Calif.

2000 Members of EEI Committees Work Together for Industry, Public

Plans for 1959-60 Announced by the Committees of the Board, Customer, Employee and Investor Relations, Engineering, and General Divisions

ONLY 80 years ago Thomas A. Edison developed the first practical incandescent electric light. Since that time, when it was considered by many to be nothing more than an "amusing novelty," electricity has become an essential of modern living.

One of the foundations of the growth of electricity as a prime factor in our civilization has been the continuing cooperation of the thousands of people within the industry who have worked together for the advancement of the electrical art. The tradition of cooperation, of knowledge shared and of technical advances gained, is as old as the industry itself. By pooling their experiences and by disseminating throughout the industry their combined ideas in many fields, these dedicated individuals have aided in bringing a steady flow of benefits to the public.

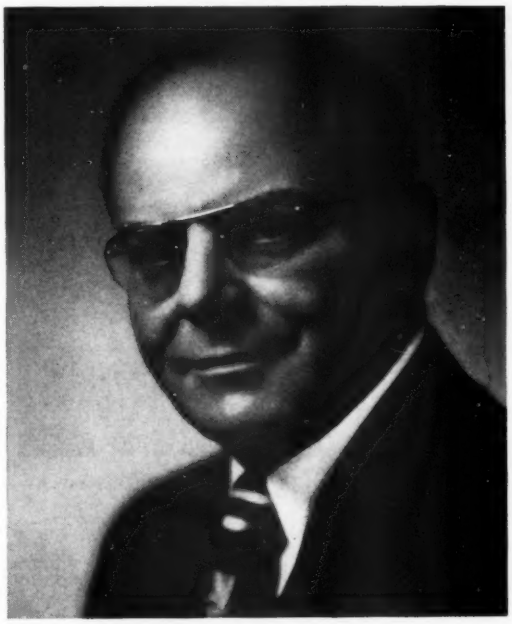
More Than 70 Committees

During the past year more than 2000 of the industry's leading experts representing almost all phases of electric company operation, carried on this tradition of cooperation through their activities on Edison Electric Institute committees. Drawn from companies throughout the country and functioning in more than 70 Edison Electric Institute working committees and groups, these people have provided a dynamic force for progress within the industry. Backed by the unselfish cooperation of their company organizations, these committeemen contribute their knowledge to many subjects vital to the industry.

The Institute's working committees, in addition to those reporting directly to the Board, function in a framework of five divisions: General; Engineering and Operating; Sales; Accounting; and the new Customer, Employee and Investor Relations Division. Many committees have a number of subcommittees which pursue special aspects of the committee's work and some have one or more task forces to study individual problems.

There are no trade secrets in the electric power industry. Company representatives taking part in committee activities find that their thinking is stimulated by these meetings with other power men. Only in a large national organization such as the Institute is it possible to draw together the best of the industry's brains, making the exchange of information profitable to all.

As the industry continues to grow and expand, as new developments are brought into being, the work of these committees and the tradition of cooperation in the electric industry becomes more and more important.



ALLEN S. KING
President, Edison Electric Institute

The committeeman's reward is largely one of personal satisfaction. If his group is responsible for some greater efficiency, or new practice, or an improved method or beneficial idea, he receives no direct gain. The gain is for the entire electric industry and each company within it—and above all, for the public they serve.

The Institute's committees are guided by the EEI Board of Directors under the Chairmanship of the Institute President. Chief executives of member companies largely make up the staff of the Board. The Advisory Committee, composed of member company chief executives, acts as a consultant to the Institute on matters of industry policy.

Presented here briefly is a survey of activities scheduled by eight of the committees reporting directly to the Board, the Customer, Employee and Investor Relations Division, the General Division, and the Engineering and Operating Division Committees for the administrative year 1959-60. Accounting and Commercial Divisions plans will be presented in the November BULLETIN.

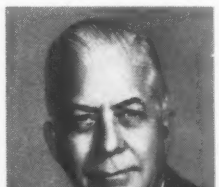
Committees of the Board of Directors

COMMITTEE ON ATOMIC POWER

The Committee on Atomic Power, under the Chairmanship of E. L. LINDSETH, President of The Cleveland Electric Illuminating Co., continued to carry out its assignment of furthering industry-wide relations with the atomic energy enterprise.

On Feb. 26, 1959, Mr. Lindseth, on behalf of the Committee on Atomic Power, represented the Institute at hearings before the Joint Committee on Atomic Energy. These hearings are held in accordance with section 202 of the Atomic Energy Act of 1954. This year's hearings centered around the formulation of a national nuclear power program. In commenting on the objectives of such a program, Mr. Lindseth stressed the point that any such program should be so conceived as to bring the development of atomic power as soon as possible and as nearly as possible within the framework of commercial development of conventional energy sources. A review of electric utility company progress in nuclear power development during the year was also presented, along with a detailed tabulation showing the status of electric company nuclear projects.

E. L. LINDSETH
Chairman, Committee on Atomic Power



S. L. DRUMM
Chairman, Management Practices Committee

At the annual EEI Convention in New Orleans, the committee sponsored a session on atomic power. It included an address by Chairman J. A. McCone of the U. S. Atomic Energy Commission on government's new national nuclear power program; a status report delivered by Mr. Lindseth on electric company nuclear activities and construction progress reports on the Indian Point, Yankee, Dresden and Enrico Fermi nuclear power plants presented by executives connected with these projects.

During the year the Committee on Atomic Power assisted in the revision of two Institute publications on atomic power, "Electric Power from the Atom" and "Nuclear Power Program of Electric Power Companies in the United States."

The committee continued its surveillance of the nuclear power field and followed events in Washington such as the Appropriation Hearings for the AEC budget and other pertinent Congressional hearings.

W. J. CLAPP, President, Florida Power Corp., was appointed Vice Chairman of the committee for the 1959-60 administrative year.

Looking ahead, the committee will continue its coverage in the field and will prepare nuclear power policy recommendations to the EEI Board of Directors when appropriate.

Chairman E. L. LINDSETH has been President and director of The Cleveland Electric Illuminating Co. since 1945. Joining the Illuminating Co. in 1923, Mr. Lindseth worked his way up rapidly, becoming in 1945 the youngest chief executive in its history. He is a board member of the B. F. Goodrich Co., the Equitable Life Assurance Society of the United States, and the National City Bank of Cleveland; he is a past president of the Cleveland Chamber of Commerce. He has been active in EEI work for many years, serving in a variety of capacities. In 1949-50 Mr. Lindseth was President of Edison Electric Institute. Since then he has served two years as a member of the EEI Advisory Committee, and six years as a member of the EEI Board of Directors. Mr. Lindseth at present is a member of the EEI Board and of its Executive Committee.

MANAGEMENT PRACTICES COMMITTEE

The Management Practices Committee, under the Chairmanship of S. L. DRUMM, President of West Penn Power Co., was formed by the Board of Directors to develop and disseminate information on improvements in management practices throughout the electric utility industry. Although still under a year old, the committee has developed an outline for a proposed "Statement of Basic Management Principles" and has completed an initial survey of successful management practices.

The committee plans to sponsor management study projects within the industry, and perhaps organize seminars and discussion groups on management practices and principles. Among projects planned by the committee are studies of management organization structures, management development practices, long-range planning, management compensation, and yardsticks for measuring performance.

It is anticipated that by an exchange of information and ideas among member companies on these and other management subjects, a clearinghouse will be provided for ideas regarding more efficient and effective organizations and practices in the industry.

Chairman S. L. DRUMM is President of West Penn Power Co. Mr. Drumm was graduated from the U. S. Naval Academy and attended Loyola of the South University law school in New Orleans. Mr. Drumm joined New Orleans Public Service Inc. in 1925 and was elected a vice president of that company in 1949. He was elected executive vice president of West Penn Power in 1954. He is a past chairman of the Better Light Better Sight Bureau and past chairman of the EEI Commercial (now Sales) Division Executive Committee. Since joining WPP, Mr. Drumm has been elected a state director of the Pennsylvania Economy League, a director of the Regional Industrial Development Corp. and a director of the Pennsylvania State Chamber of Commerce.

MEMBERSHIP COMMITTEE

The Membership Committee has the responsibility of receiving and examining all applications for membership in the Institute. The committee makes its recommendations and reports directly to the EEI Board of Directors.

The Membership Committee is under the Chairmanship of E. S. Thompson, Chairman of the Board of The West Penn Electric Co.

Chairman E. S. THOMPSON is Chairman of the Board and a director of The West Penn Electric Co. He was with the National Fire Insurance Co. and Hornblower & Weeks before joining the American Waterworks and Electric Co. in 1923. In 1938 he was elected president and a director of the latter company, predecessor to West Penn Electric. Among the companies of which Mr. Thompson is a director are Monongahela Power Co., Potomac Edison Co., Windsor Power House Coal Co., West Penn Railways, City Bank Farmers Trust Co., and the Ritz-Carlton Hotel. Mr. Thompson is a member of the EEI Advisory Committee.

POLICY COMMITTEE ON POWER CAPACITY AND POOLING

With generating capacity being installed in larger and larger unit sizes and extra-high voltage transmission lines making possible the exchange of larger blocks of power among companies and between geographic areas, the Board of Directors has established a Policy Committee on Power Capacity and Pooling. The committee, under the Chairmanship of C. E. OAKES, Chairman of the Board of Pennsylvania Power & Light Co., will study the interchange of capacity, staggering of reserves, scheduling of maintenance, etc., through the mediums of interconnections and power pools.

This committee, through a task force made up of representatives from each region in the country, and which is working closely with the Electric Power Survey Committee, is currently making a survey of the power supply system in the United States, past and future. The purpose of the survey is to determine the extent to which systems are interconnected, the impact of larger units being installed on the reserve situation and possibilities of further and higher capacity interconnections among companies as their need, growth of generating capacity, and economic feasibility may dictate.

Chairman C. E. OAKES is Chairman of the Board and chief executive officer of Pennsylvania Power & Light Co. President of EEI in 1947-48, Mr. Oakes also has served on the Institute's Board of of Directors and currently is a member of its Advisory Committee. He joined PP&L 36 years ago as an engineer in the Rate Department. He was appointed assistant to the president in 1925 and then manager of the former Allentown division. Mr. Oakes later served as president of the Birmingham (Ala.) Electric Co., returning to Allentown in 1945 as PP&L president. He was elected board chairman on December 1, 1957. A board member of several Pennsylvania companies, Mr. Oakes served as president of the Pennsylvania Electric Association in 1946-47. He is active in numerous civic groups, trade associations and business organizations. Mr. Oakes received his master's degree in mechanical engineering from Cornell in 1917.

COMMITTEE ON RELATIONS WITH EDUCATIONAL INSTITUTIONS

The Committee on Relations with Educational Institutions, under the Chairmanship of S. R. KNAPP, President of The Connecticut Light & Power Co., has as its field of interest the problems of education and their implications for the nation and the electric power industry.

Guiding the committee's work are two basic considerations: the need for increasing the number of students interested in a scientific education, and the desirability of having a growing number of able engineering students attracted by power industry careers.

With these points in mind, the committee developed "Power and Progress," published late last year and now in its second printing. This 32-page booklet was basically designed to provide students, teachers and guidance counselors with a positive and non-controversial picture of the electric industry. Companies which have purchased it have also found it useful for wider distribution to employees, stockholders and other interested people.

E. S. THOMPSON
Chairman, Membership Committee

C. E. OAKES
Chairman, Policy Committee on Power Capacity and Pooling

In March, 1959, the committee completed a survey of electric company educational aid activities and a summary of the results was sent to all member companies. Eighty-eight companies cooperated in the survey, which was designed as an initial step in developing a program to assist electric companies in educational aid activities, in encouraging students with science and engineering aptitudes, and in interesting able engineering students in the power industry.

Based on the results of the survey, an educational aid manual is now in the process of development. It will provide a comprehensive summary of educational aid practices that have proven effective and which meet the approval of educators. Publication of the manual is planned for late fall, and it will be available for purchase by EEI member companies.

Chairman S. R. KNAPP is President and a director of The Connecticut Light & Power Co. He joined the utility in 1928, immediately after his graduation from Cornell University. Through steady promotions, he rose to executive vice president in 1949, and in 1952 was elected president and a director. Mr. Knapp is Vice President of EEI. Vice president and director of the Yankee Atomic Electric Co., he serves also as chairman of the Atomic Energy Committee of the Manufacturers Associa-

S. R. KNAPP
Chairman, Committee on Relations with Educational Institutions

W. W. LYNCH
Chairman, Committee on Rural Electrification

D. S. KENNEDY
Chairman, Special Tax Policy Committee

J. F. FAIRMAN
Chairman, Technical Appraisal Task Force on Nuclear Power

tion of Connecticut. Mr. Knapp is a director of several companies and is a trustee of The Connecticut Bank and Trust Co., Connecticut College, and the Connecticut Public Expenditure Council.

COMMITTEE ON RURAL ELECTRIFICATION

The Committee on Rural Electrification, under the Chairmanship of W. W. LYNCH, President of Texas Power and Light Co., was established by the Board of Directors to re-examine the whole subject of rural electrification, including the activities of member companies, as well as the activities of the Rural Electrification Administration and REA-financed cooperatives.

One of the projects in which the committee is engaged is the compilation of a history of the development of rural electrification in the United States, which will be published in pamphlet form and distributed to member companies.

The committee is also making a survey among member companies to determine the relative importance of rural electrification in the various companies' service areas, how this activity is conducted in their organization, and the manner in which relations with neighboring rural electric cooperatives are handled. A summary of this survey will be distributed to member companies.

Chairman W. W. LYNCH has been President of Texas Power & Light Co. since 1949. A 1922 graduate of the A & M College of Texas, Mr. Lynch joined TP&L in 1923 after having served in the test, sales and service departments of Westinghouse Electric Manufacturing Co. In 1928 he was named supervisor of distribution for TP&L. He was elected vice president in 1936 and executive vice president in 1947. A director and member of the Executive Committee of EEI, he is also a vice president of Texas Utilities Co. Mr. Lynch is a director of the Republic National Bank of Dallas, National Employers Insurance Co., Texas Employers Insurance Association and president and director of the Gwynne Building Co., Bealyn Building Co. and the Insurance Building Corp. He also is actively concerned with the administration of civic and business groups, educational institutions and trade associations.

SPECIAL TAX POLICY COMMITTEE

The Special Tax Policy Committee, under the Chairmanship of D. S. KENNEDY, Chairman and President, Oklahoma Gas and Electric Co., is concerned with the many aspects of taxation as they affect the electric utility companies.

In addition to its interest in taxes imposed directly upon privately-owned utility companies, this committee also keeps alert to such matters as the existing unfairness to customers of privately-owned utilities, because of negligible or non-taxation of public bodies, cooperatives, and municipalities engaged in the generation, transmission, or distribution of electric energy.

Double taxation of corporation dividends, the high income tax rates, the large amount of Federal property which is not subject to taxation by state and local governments, and the use of tax-free securities for financing electric systems are of concern to the Special Tax Policy Committee. It also attempts to keep informed on the tax policies of other trade organizations.

The Committee on Ways and Means of the U. S. House of Representatives, headed by Congressman Wilbur D. Mills (D., Ark.), is taking a new look at tax problems. The Special Tax Policy Committee, which plans to make a presentation before the Mills Committee, hopes this new Congressional study will bear fruit.

Chairman D. S. KENNEDY, President and Chairman of the Board of Oklahoma Gas and Electric Co., joined the company in 1923 as a bookkeeper. He progressed through the ranks to traveling auditor, division auditor, assistant to the treasurer, treasurer, vice president, executive vice president, and assumed his present position in 1949. A graduate of the University of Arizona, he was awarded the honorary degree of Doctor of Laws by Oklahoma City University in 1958. He served as EEI President in 1956-57 and was re-elected for 1957-58. This position was resigned in December, 1957, due to increased responsibilities at OG&E. He is a member of the EEI Board of Directors. An active participant in the industrial development of Oklahoma, he serves on the Governor's Economic Development Commission, and has been president of the Oklahoma City Chamber of Commerce, and president of the Oklahoma City Community Chest.

TECHNICAL APPRAISAL TASK FORCE ON NUCLEAR POWER

The Technical Appraisal Task Force on Nuclear Power was organized following the June, 1956, meeting of the Institute's Board of Directors with the following objectives:

1. To keep informed of the status of research and development work, in the United States and elsewhere, of importance to the achievement of competitive nuclear power.
2. To study and report on all reactor programs and projects.

3. To study and appraise the technical and economic factors and the results to be achieved by the design and construction at different times of prototype or full-scale nuclear power plants.
4. To act as a liaison agency with the members of any nuclear reactor evaluation group that may be set up on a national level.

The task force consists of six electric utility industry members and six outstanding scientists and engineers. The Chairman is J. F. FAIRMAN, Senior Vice President, Consolidated Edison Co. of New York, Inc.

The scope of operation prescribed by the Board allows the task force substantial latitude in determining its method of procedure. Under this broad charter the group has been directed in the planning of its projects and activities by the general policy of according primary consideration to aspects of atomic power not adequately covered for the electric utility industry by other technical organizations and reporting services. This has resulted in the publication of two timely reports to the EEI Board—"Status and Prospects of Nuclear Power" issued July, 1958, and "Survey of Initial Fuel Costs of Large U.S. Nuclear Power Stations" issued in January, 1959. The studies resulting in these reports were conducted under task force direction by an atomic energy consulting firm engaged for this purpose.

The task force convenes periodically on call of the chairman. During the past year meetings were held in June, September, and November, 1958, and January, March, and June, 1959.

In addition to investigations leading to the two published reports, the task force has given considerable attention during the past 18 months to the atomic power programs of leading U.S. equipment manufacturers. Scientists and engineers from a number of these companies have appeared before the group for the purpose of describing recent developments in this field by their organizations. A similar activity at a recent task force meeting was an AEC-sponsored panel of experts who discussed the subject of atomic plant site selection. The task force file of reports and brochures prepared in conjunction with the appearance of technical organization representatives at its meeting is available for review by interested members of electric utility companies.

The task force maintains liaison with other national nuclear energy groups largely by joint membership. Through coordination of this type a report entitled "Siting of Nuclear Power Reactors" was published in August of this year by the Atomic Industrial Forum. This record of discussion and comments on safety considerations of this subject is based on the AEC - Task Force Symposium at the June 1 task force meeting and an Atomic Industrial Forum meeting on June 30, 1959.

Also in its role as a technical liaison agency with other nuclear power groups and civil bodies, task force representatives have appeared at conferences of the AEC and of the Joint Committee on Atomic Energy.

The task force plans to continue its program of directing attention to technical areas in which additional information would be of service to the industry. At present a study is being made under the group's direction on the subject of radioactive waste disposal. Preliminary consideration is also being given to other topics that may warrant investigation.

Chairman J. F. FAIRMAN is Senior Vice President of Consolidated Edison Co. of New York, Inc. A graduate of the University of Michigan, he taught engineering there prior to joining the electrical engineering department of the Brooklyn Edison Co. He became head of this department for the Con Edison system when Brooklyn Edison was merged into the parent company. His career since becoming an officer of the company has been closely associated with engineering and he has had over-all engineering responsibility for Con Edison's atomic power plant project since its inception. He is chairman of the National Association of Manufacturers' Committee on Atomic Energy and serves on Governor Rockefeller's General Advisory Committee on Atomic Energy. He is vice president of Atomic Power Development Associates and the Atomic Industrial Forum. He has taken a leading part in the work of the technical societies and EEI committee work. During the Korean War he was named administrator of the Defense Electric Power Administration.

Customer, Employee and Investor Relations Division Committees

CUSTOMER, EMPLOYEE AND INVESTOR RELATIONS DIVISION EXECUTIVE COMMITTEE

The Executive Committee of the Customer, Employee and Investor Relations Division is composed of Chairman C. E. OAKES, Chairman of the Board, Pennsylvania Power & Light Co.; C. E. EBLE, President, Consolidated Edison Co. of New York, Inc.; J. W. MCAFEE, President, Union Electric Co.; and W. H. SAMMIS, President, Ohio Edison Co.

With responsibility for general guidance and policy considerations, the Executive Committee provides coordination of the activities of the Division committees and acts as liaison between them and the Board of Directors.

CUSTOMER RELATIONS COMMITTEE

With the creation of the Customer, Employee and Investor Relations Division a year ago, the Customer Relations Committee was organized, with KIMBALL JACK, Vice President of The Washington Water Power Co., as Chairman.

The new committee held its first meeting in February of this year to develop goals and organize subcommittees, and define as a broad objective the "creation of a favorable climate for development and expansion by making friends."

Six subcommittees were formed at the meeting and they have been engaged in surveying their fields through questionnaires circulated among the over-all committee. The subcommittees, their chairmen, and areas of interest are given below.

Subcommittee on Functions, R. W. WINSBOROUGH, Middle West Service Co., Chairman, is engaged in developing studies and reports on the pattern of customer relations organizations and programs within companies represented on the committee.

Subcommittee on Attitudes and Measurements, J. K. FLANAGAN, Florida Power Corp., Chairman, is studying the use of opinion polls by the companies represented on the committee as a step in learning why people think as they do, as well as how they think.

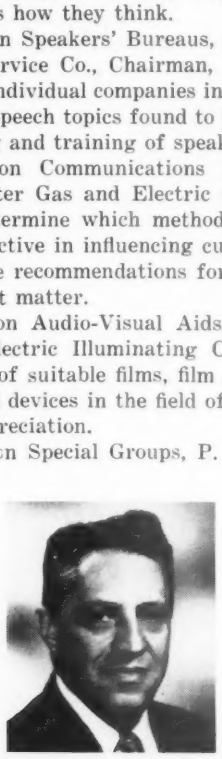
Subcommittee on Speakers' Bureaus, BEEMAN FISHER, Texas Electric Service Co., Chairman, is surveying the methods used by individual companies in operating speakers' bureaus, the speech topics found to be most effective, and the recruiting and training of speakers.

Subcommittee on Communications Research, S. F. BALDWIN, Rochester Gas and Electric Corp., Chairman, is working to determine which methods of communication are most effective in influencing customer attitudes, and plans to make recommendations for improving techniques and subject matter.

Subcommittee on Audio-Visual Aids, R. H. BRIDGES, The Cleveland Electric Illuminating Co., Chairman, is making a survey of suitable films, film strips, slides and other audio-visual devices in the field of customer understanding and appreciation.

Subcommittee on Special Groups, P. V. HAYDEN, The Connecticut Light & Power Co., Chairman, is developing a study of the various groups with which companies represented on the committee conduct plant tours, safety demonstrations, special luncheons and other activities.

A general theme for the year's committee program was adopted in the spring—"The Value of Electric Service by Investor-Owned Utilities." In addition, a *Customer Relations News Letter* is planned, initially for circulation among committee members. The *News Letter* will cover individual company activities in the customer relations field. Eventually, an inventory of available materials and programs being utilized successfully by companies is expected to be developed and included on a periodic basis as part of the *News Letter*.



KIMBALL JACK
Chairman, Customer Relations Committee

Chairman KIMBALL JACK is Vice President in Charge of Sales, Promotion, and Information of The Washington Water Power Co. He joined the Spokane company in 1939 to organize its new Advertising and Customer Relations Department. In 1944 he was given the assignment of modernizing WWP's Personnel Department and in 1953 he revived the company's Sales Department which had been inoperative for 12 years during and following World War II. He was elected vice president in February, 1956. Mr. Jack, whose work centered in the fields of education and journalism before joining WWP, has published numerous articles dealing with customer relations and employee activities. Active in Washington State and Spokane civic and community projects, Mr. Jack was president of the Spokane Advertising and Sales Association in 1951, is a former vice president of the Spokane Chamber of Commerce, and a board member of the Northwest Electric Light and Power Association.

W. H. SENYARD
Chairman, Industrial Relations Committee

W. H. ZIMMER
Chairman, Investor Relations Committee

INDUSTRIAL RELATIONS COMMITTEE

Among the topics to which the Industrial Relations Committee devotes its attention and discussion are: employment and testing; training (supervisory, management and employee); wage and salary administration; union relations; existing or pending labor legislation; employee communications; organizational planning; and all phases of employee benefits, such as pensions, health and welfare insurance, etc.

Inasmuch as these subjects pertain to all phases of a company's operations, the Industrial Relations Committee works with other committees on common problems.

The committee has been in existence more than 16 years, and during that time there has been accumulated in the files of Edison Electric Institute valuable information to companies seeking help on wage matters, working conditions, fringe benefits, training programs, retirement plans, and other phases of industrial relations. Also, through this means the inquiring company may be referred to other companies for more detailed information. The committee is under the Chairmanship of W. H. SENYARD, Vice President and Director of Personnel of Louisiana Power & Light Co. C. E. PARKER of Commonwealth Edison Co. is Vice Chairman.

During this administrative year, the committee will continue to hold joint meetings with regional industrial relations groups. These are two-day meetings, with the first day devoted to prepared papers on topics of mutual interest in the area of employee or industrial relations. The second day is devoted to progress reports on labor negotiations. Joint meetings for this year have already been scheduled with the New England Regional Utility Group and the Southwestern Personnel Group. One

additional joint meeting is still under discussion for time and location.

Perhaps the high spot of the activities of the committee is the Round Table Conference held in Chicago, usually during the latter part of September. The theme this year was "Your Employee Relations Are Showing" with speakers having explored in this respect the attitude of non-supervisory employees, supervisors, customers, and company presidents and chief executive officers. Each successive year a larger percentage of company representatives from operating, engineering, accounting, sales, and other similar groups attend. This year more than one-third of those registered were from such groups.

Thus, through the regular meetings of the committee, the joint meetings with regional groups, and the Annual Round Table Conference, member companies of EEI have an opportunity to exchange information on any phase of employee or industrial relations, and in so doing benefit by the experiences of others. They, likewise, have an opportunity to acquire from subcommittee reports, as well as from the prepared papers, information on subjects of interest to their companies.

Chairman W. H. SENYARD is Vice President and Director of Personnel of Louisiana Power & Light Co. He received a B.A. degree from the University of Arkansas in 1926. He joined Louisiana Power & Light immediately after his graduation from college and has been with the company since then. Mr. Senyard was made director of personnel for the company in 1929 and was named Vice President and Director of Personnel in 1958.

INVESTOR RELATIONS COMMITTEE

The Investor Relations Committee, under the Chairmanship of W. H. ZIMMER, Executive Vice President of The Cincinnati Gas & Electric Co., has the responsibility to provide member companies with data and information pertaining to investor relations and financing, as well as to study and recommend means by which a better climate might be created for the sale of industry securities. A. H. SCHETTLER of Union Electric Co. is Vice Chairman of the committee.

The work of the committee is carried on through correspondence, committee meetings and biennial financial conferences. One means of disseminating information on security issues is the distribution of a "Report On Security Issue." A report is prepared containing pertinent data on each security issue of electric utility companies. These reports are distributed to committee members, presidents of EEI member companies, and other industry personnel who have requested them.

Committee meetings have been held at which talks were given by either committee members or outside speakers well qualified to speak on financial topics selected for their current interest. These meetings will be continued and present plans are for one to be held in November or December.

During April, 1958, the committee sponsored a very successful financial conference which was attended by representatives of both the electric utility industry and financial institutions. Talks were given by well qualified speakers followed by question and discussion periods on such topics as nuclear energy, regulation, financial outlook, and other timely items. It is planned to hold another such conference during 1960, probably in April or May, at a place still to be selected.

Chairman W. H. ZIMMER is Executive Vice President and a Director of The Cincinnati Gas & Electric Co. He attended the University of Cincinnati and has spent his entire business career with this company. Since joining the utility in 1920 he has progressed through various accounting positions to assistant treasurer, treasurer, director, vice president, and to executive vice president in 1957. Mr. Zimmer has been active in industry and civic affairs, having served as president of the Cincinnati Control and chairman of the National Committee on Securities and Exchange Commission Regulations of the Controllers Institute of America and chairman of the EEI Accounting Division. He presently is serving on the boards of several civic and charitable organizations and is a vice president and director of The Ohio Electric Utility Institute.

Engineering and Operating Division Committees

ENGINEERING AND OPERATING DIVISION EXECUTIVE COMMITTEE

The Engineering and Operating Division Executive Committee will continue to serve as the coordinating and policy group for the six committees of this Division, namely, Electrical System and Equipment, Hydraulic Power, Meter and Service, Prime Movers, Transmission and Distribution, and Transportation. The chairman of each of the six committees is an *ex officio* member of the Executive Committee.

The Executive Committee, which is under the Chairmanship of W. L. CHADWICK, Vice President of Southern California Edison Co., meets twice each year, usually in October and in April. At the October meeting it receives reports from the constituent committees on their programs for the ensuing year.

One current question to be resolved is the extent to which the member companies need air and water pollution expert information and advice, and how best to provide what may be required. These two problems are demanding solution in several areas and control legislation is sometimes imposed without full knowledge of its effects on the public service.

The question of the best organizational arrangement for the best performance of the Electrical Equipment and System Planning groups is still under study.

Chairman W. L. CHADWICK is Vice President of Southern California Edison Co. He received his

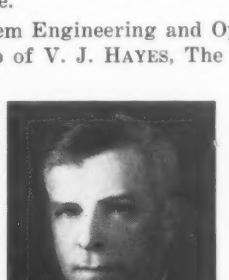
education at the University of Redlands and has been with his company in various capacities since 1922, with the exception of six and one-half years between 1931 and 1937 when he served with the Metropolitan Water District of Southern California. He was chairman of the Prime Movers Committee during 1954-1955, and has been a member of the Engineering and Operating Division Executive Committee since that time.

ELECTRICAL SYSTEM AND EQUIPMENT COMMITTEE

The Electrical System and Equipment Committee, under the Chairmanship of R. G. MEYERAND, Chief Electrical Engineer of Union Electric Co., is proceeding with plans based upon the same policies and principles and with the same organization of subcommittees which have been found to be effective over the years. The information from the questionnaire sent to all members will be a helpful guide for the future.

The Subcommittee on System Engineering and Operation, under the Chairmanship of V. J. HAYES, The Con-

W. L. CHADWICK
Chairman, Engineering and Operating Division Executive Committee



R. G. MEYERAND
Chairman, Electrical System and Equipment Committee

necticut Light & Power Co., will continue its studies on three active subjects: intersystem power exchange practices, protective relaying, control and communication systems, and system operation, each with sponsors selected to review and report on the latest improvements and developments.

The Subcommittee on Equipment and Station Operation and Maintenance, under the Chairmanship of R. M. PENNYPACKER, Philadelphia Electric Co., will actively follow the testing, operation, and maintenance of electrical equipment, together with fire-fighting practices and safety rules and regulations. Subjects under study include maintenance practices for various large types of electrical equipment.

The Subcommittee on Equipment and Station Design, with K. L. WHEELER, The Cleveland Electric Illuminating Co., as Chairman, will keep the committee advised of advances and improvements in equipment and station design, switchgear and switchboards, circuit breakers and rotating machinery. Also, by representation on many joint committee activities such as the various ASA Standards Committees, the membership is kept advised as to their activities and has a voice in their actions.

The Subcommittee on System Planning, under A. P. FUGILL, The Detroit Edison Co., is continuing as active projects the studies on economic evaluations, load forecasting, planning practices, outage and interruption recording, and computer programming. A report on "Transmission Planning Practices" is well underway. The subcommittee report on "Economic Comparison of Alternative Plans" is expected to be available to all EEI members this fall. Surveys on the impact of electric space heating and electric air cooling installations on the planning of future electrical systems now underway should result in reports of findings before the administrative year is over. The preliminary study on uniform recording of outage and interruption data on digital computers indicated little similarity among companies already using this equipment. The next phase will be to encourage industry uniformity by a broad format of the necessary information which could be used as a guide by those companies contemplating a conversion to machine recording. A task force to facilitate cooperation on computer programming has been organized and has held two meetings. It is considering another more general meeting this winter, and has distributed two issues of the newsletter *Swap* which will be issued periodically as news on computers develops.

The Subcommittee on System and Equipment Troubles, with F. J. BERGER, Philadelphia Electric Co., as Chairman, will continue to present summaries of system disturbances, oil fires and equipment failures experienced by the members. Unfortunate as such occurrences may be, their description and review point the way to improvements in design or operation and to remedial measures that may prevent similar occurrences on other systems. This, together with the semi-annual trouble report, is of primary interest and benefit to the members. The round table discussion with D. W. TAYLOR, Public Service Electric & Gas Co., as Moderator, has proved quite popular. Questions on any topic within the scope of this committee are asked by members and are freely discussed by all. Thus, the experiences and opinions of all the members are available to each other.

Three meetings are scheduled: Oct. 5-6 in Kansas City, Mo.; Feb. 15-16 in Philadelphia, Pa.; and May 16-17 in Dallas, Texas.

Chairman R. G. MEYERAND, Chief Electrical Engineer, Union Electric Co., was awarded a B.S. degree in 1925 and an M.S. degree in 1926 in electrical engineering from the Massachusetts Institute of Technology. Upon graduation Mr. Meyerand accepted a position with Stone & Webster Engineering Corp. In 1933 he joined Union Electric and has served in various engineering capacities for Union Electric and its predecessor companies. In 1956 he was appointed chief electrical engineer. Mr. Meyerand is a Fellow of AIEE, Past Chairman of AEIC Switching and Switchgear Committee and a member of ASA C-37 and the EEI-NEMA-AEIC Committee on Power Circuit Breakers. He is a licensed professional engineer. Mr. Meyerand has been a member of the Electrical System and Equipment Committee since 1951.

HYDRAULIC POWER COMMITTEE

The Hydraulic Power Committee is continuing its studies of problems involved in the design, construction, operation and maintenance of hydroelectric plants under the Chairmanship of K. O. STRENGE, Chief Civil Engineer of The Washington Water Power Co. The Vice Chairman is R. A. LANE, Philadelphia Electric Co.

At each annual meeting of this committee the various subcommittees submit reports of their activities and findings. Presently the active subcommittees are:

Weather Modification, J. H. KIME, Southern California Edison Co., Chairman; Pressure Regulation, T. J. CORWIN, Pacific Gas and Electric Co., Chairman; Vibration in Hydroelectric Plants, G. J. VENCILL, Union Electric Co., Chairman.

The 1959 meeting was held May 11-13 at Lake Ozark, Mo. In addition to the subcommittee reports, nine papers were presented on various topics within the scope of this committee's activities and 25 other topics were discussed at the round table sessions. An inspection tour of Union Electric Co.'s Osage Hydroelectric Plant was made by the members and guests of the committee. A special report was submitted by R. A. Lane on the liaison work with the Research Projects Committee.

The wide geographic distribution of the membership of this committee tends to broaden the base of the viewpoints on the various subjects covered by the papers presented and the topics discussed at the round table. The organization of subcommittees to investigate and prepare reports on subjects which appear to be of particular interest enables the committee to keep abreast of many advances in the hydroelectric field.

It is presently anticipated that new subcommittees will be formed in order to investigate, in more detail, some of the topics which have heretofore been discussed in the round table sessions.

Several guests are frequently invited to the meetings and, in many cases, these guests present papers along the lines of their specializations. This adds considerably to the available technical information pertaining to these specific topics.

Complete minutes of each annual meeting, including the papers presented and the round table discussion topics, are prepared by G. E. WATKINS, of EEI, Secretary.

Chairman K. O. STRENGE is Chief Civil Engineer, The Washington Water Power Co. Shortly after being graduated from Rensselaer Polytechnic Institute in 1935, he began working with The Southern States Power Co. He later was employed by Ebasco Services, Inc. From 1941 to 1948 he served as assistant chief engineer and acting chief engineer for the Pennsylvania Water Co. and its successor, The Wilkinsburg-Penn Joint Water Authority. He then returned to Ebasco Services, Inc., as civil engineer. Since 1955 he has been in his present position. He is a member of many professional organizations and is presently chairman of the Committee on Operation and Maintenance of Hydroelectric Plants, Power Division, ASCE.

METER AND SERVICE COMMITTEE

The Meter and Service Committee under its new Chairman, C. P. STAHL, Supervisor of Electrical Testing of Wisconsin Power and Light Co., and Vice Chairman J. E. BURNEY, Alabama Power Co., will be operating under the same general principles as in the past, but under a slightly revised organizational setup. The goals of this committee will continue to be the development of standards for metering and service equipment and the improvement in economical and efficient operation of meter departments and the art of metering.

As in the past, two meetings a year will be held jointly with the AEIC Meter and Service Committee. The meetings are scheduled geographically so as to cover the entire country periodically in order to allow the maximum attendance of members and visitors. The committee's actions are governed by the Executive Group consisting of the active officers, the last two past chairmen of each organization, the subcommittee chairmen and a representative of the light and power group on the EEI-AEIC-NEMA Joint Committee.

Under the revised organization, the four subcommittee divisions are retained, but their titles and scopes are changed to define more clearly their portion of the committee's activities. Subject assignments have been regrouped accordingly with subject chairmen being reassigned as necessary. Subcommittee chairmen are rotated biannually with two chairmen being replaced every year. The new subcommittee titles and chairmen are: Subcommittee I, Services, E. B. HICKS, Carolina Power and Light Co.; Subcommittee II, Metering, W. D. LINDSAY, West Penn Power Co.; Subcommittee III, Performance, W. H. FARRINGTON, Texas Electric Service Co.; and Subcommittee IV, Management, A. D. IRION, Southern California Edison Co. Subcommittee chairmen assign subjects under their jurisdiction to members of their subcommittee for study and action.

K. O. STRENGE
Chairman, Hydraulic Power Committee

C. P. STAHL
Chairman, Meter and Service Committee

Study will be continued on several subjects carried over from last year with special emphasis being placed on the economics and operation of statistical sampling to determine meter test requirements, revision of the *Meterman's Handbook*, the impact of higher distribution voltages on metering, and costs of meter testing.

Efforts will be made to complete and publish Standards for Watthour Meters, Parts I, II and III; Standards for Indicating Demand Registers, Standards for Watthour Meter Sockets, Standards for Low Voltage Current Transformers and Standards for Indoor Potential Transformers up to and including 15 kv. Standards for other metering equipment are also being worked on. New subjects assigned include: demand contact devices; the color coding of 600-volt class current transformers; and automatic meter reading.

The practice of holding considerable round table discussion of suggested subjects will be continued because of its great value to the members. Also, the presentation of new developments by the various metering equipment manufacturers will be continued, as well as the biannual inspection trip to one of the meter factories.

The fall meeting was held at Portsmouth, N. H., Sept. 14-16, and the spring meeting will be held in Madison, Wis., May 23-25, 1960.

Chairman C. P. STAHL, Supervisor of Electrical Testing, Wisconsin Power and Light Co., was

graduated from the University of Illinois with a degree in electrical engineering in 1924. He joined WP&L in 1926 in the Engineering Department in construction, relay and meter work. He was assistant division engineer of the Central and Southern Divisions until 1936 when he became meter engineer in the Engineering Department and assumed his present position in 1952. He served during World War II in the Alaskan Theater, attaining the rank of lieutenant colonel. He is a registered professional engineer and a member of the International Association of Electrical Inspectors, SAME, Madison Technical Club and the Wisconsin Utilities Association of which he has been chairman of its Meter and Service Committee several times. He has been a member of the EEI Meter and Service Committee since 1946.

PRIME MOVERS COMMITTEE

For the 1959-1960 committee year, T. O. THOMPSON, Engineer in Charge of Power Plants for Wisconsin Electric Power Co., has succeeded V. L. STONE, Commonwealth Edison Co., as Chairman of the Prime Movers Committee, with C. A. DAUBER, The Cleveland Electric Illuminating Co., replacing Mr. Thompson as Vice Chairman.

The design of the committee organization and program continues to be directed toward fulfillment of the purpose recorded in the minutes of the committee's first meeting in June, 1933, of providing "a continuous technical study of the economics of power generation, including the various sources of power now used or in prospect and the development and operation of mechanical equipment used for power production."

In pursuit of this broad objective the committee has met 97 times during the intervening quarter century and at present is organized into 13 subcommittees and one task force, with most of its approximately 100 members being assigned to serve on at least one of the working groups or on special committee projects. Much of the information disseminated to committee members and compiled in Prime Movers Committee printed reports results from studies and investigations conducted by these sub-groups.

Subcommittees for the current administrative year with their respective chairmen include: Air Pollution Subcommittee, Chairman, W. C. BEATTIE, Consolidated Edison Co. of New York, Inc.; Atomic Power Subcommittee, Chairman, J. N. LANDIS, Bechtel Corp.; Boiler Auxiliaries Subcommittee, Chairman, J. K. BRYAN, Union Electric Co.; Boilers and Combustion Subcommittee, Chairman, R. A. BAKER, Public Service Electric and Gas Co.; Fuel and Ash Handling Subcommittee, Chairman, M. D. ENGLE, Pennsylvania Power and Light Co.; Oil and Gas Power Subcommittee, Chairman, J. W. BLAKE, Oklahoma Gas and Electric Co.; Power Station Structures and Facilities, Chairman, F. F. MAUTZ, Pacific Gas and Electric Co.; Prime Movers Award Subcommittee, Chairman, J. N. LANDIS, Bechtel Corp.; Reports on Power Station Data, Chairman, J. A. LIND, Niagara Mohawk Power Corp.; Station Instruments and Controls, Chairman, W. WELCH, JR., Long Island Lighting Co.; Turbines and Condensers Subcommittee, Chairman, V. F. ESTCOURT, Pacific Gas and Electric Co.

The committee's Metallurgy and Piping Task Force is headed by Chairman E. H. KRIEG, Stone and Webster Engineering Corp., and includes five members of the Prime Movers Committee and three other electric utility metallurgical specialists. H. C. SCHROEDER, Sargent & Lundy, is Chairman of the Power Station Cost and Performance Data Subcommittee. This group was reactivated during the past spring after a recess of several years, for the purpose of bringing the committee up-to-date on developments in its specific area.

In addition to the 13 subcommittees and task force, an Executive Committee has been organized to facilitate consideration of administrative and policy matters. The Executive Committee consists of the committee officers, the two preceding past chairmen (*ex officio*), the chairmen of the Turbines & Condensers, and Boilers & Combustion Subcommittees, and two elected members. Serving on the 1959-1960 Executive Group are: T. O. THOMPSON, Chairman; C. A. DAUBER, Vice Chairman; R. A. BAKER, J. M. DRISCOLL, V. F. ESTCOURT, H. G. HIEBELER, R. H. MCCUMBER, V. L. STONE, G. E. WATKINS, Secretary.

The Power Station Chemistry Subcommittee, in contrast to the other sub-groups, is comprised of some 60 power plant chemists and engineers, most of whom are not members of the parent committee. This subcommittee, concerned with this subject of ever-increasing importance in modern power stations, is in turn organized into sections on corrosion, water treatment, lubrication, air pollution, stream pollution, steam cycle carryover, chemical cleaning, analytical chemistry, coal sampling, and by-product utilization. I. B. DICK, Consolidated Edison Co. of New York, Inc., recently appointed Chairman of the subcommittee, succeeds R. F. ANDRES, The Dayton Power and Light Co., who served in this capacity for the previous two years.

Besides serving on the committee's sub-groups, a number of members have been assigned to represent EEI on technical organizations in fields related to the thermal generation of electricity. These liaison activities include membership on steering committees for research projects being sponsored by ASME, ASTM, AEIC, and other organizations. Prime Movers Committee members also represent EEI on several ASA committees.

In holding three three-day sessions each year the committee provides a forum for the free interchange of information on the design, operation, and maintenance of steam electric power plants. The greater part of each meeting is devoted to round table discussion under the direction of the vice chairman. Customarily about 120 topics are considered at each meeting. During the past year the committee met at Buffalo, N. Y.; Beaumont, Texas; and Chicago, Ill. The Chicago meeting provided an opportunity for an inspection tour of the Dresden Atomic Station at a particularly interesting stage of its construction.

Future Prime Movers Committee meetings are scheduled for Charlotte, N. C., in October, 1959; Cleveland, Ohio, in February, 1960; and New Orleans, La., in May, 1960.

Chairman T. O. THOMPSON is Engineer in Charge of Power Plants for the Wisconsin Electric Power Co. Starting with that company in 1920 as turbine and auxiliary operator, he has held various positions in the operating division, advancing to his present position in 1949. He attended schools in Racine, Wis., and served in the U. S. Navy during World War I as electrician's mate, 1st class. After military service he was employed in the Electric Motor Division of the Hamilton Beach Manufactur-

ing Co. in Racine. Mr. Thompson has been active in community affairs, having served as chairman of the Port Washington Board of Education and of a service club, is a member of ASME and has been active in the EEI Prime Movers Committee.

TRANSMISSION AND DISTRIBUTION COMMITTEE

The Transmission and Distribution Committee has developed its program for the coming year, under a new Chairman, H. E. CODY, General Superintendent of Lines and Service of The Cleveland Electric Illuminating Co. T. C. DUNCAN of Consolidated Edison Co. of New York, Inc., will serve as Vice Chairman.

The committee's objective is:

To guide technical and economic developments and practices and record progress in electric transmission and distribution; to study the broad engineering and economic problems involved in the construction and operation of the transmission and distribution system including the characteristics of utilization equipment; to record progress and encourage continuation of a high degree of service reliability; to develop and publish specifications for material and equipment required for construction and operation; to study the selection and training of personnel and to study the interests of electric power systems in relation to those of other wire-using systems.

The research project on soil thermal resistivity is nearing conclusion. New projects on tree growth control and extra high voltage cable are just getting under way. The committee will intensify its efforts to promote more research during the coming year. Subcommittees are:

Standards and Specifications Subcommittee: The Standards and Specifications Subcommittee, under the Chairmanship of H. G. HALLY, Iowa Power and Light Co., will provide important developments in T & D industry standards through the continued efforts and excellent work of the members of active task forces headed by the following Chairmen: H. C. BINGHAM, The Cleveland Electric Illuminating Co., automatic circuit reclosers; W. H. JOHNSON, American Electric Power Service Corp., timber products; H. MACVAUGH, Philadelphia Electric Co., aluminum compression tools and fittings.

The subcommittee also serves as a coordinated source for qualified personnel to serve as EEI representatives on joint industry committees working on other categories of transmission and distribution equipment.

Safety Subcommittee: Under a new Chairman, H. W. DANNETTELL, JR., Potomac Electric Power Co., the Safety Subcommittee will continue its activities centered around a close coordination with the Accident Prevention Committee, with particular emphasis upon the training which can best be conducted within the scope of the activities of the members of the T & D Committee. The practice of having utilities at or close to the meeting locations present programs covering their organizations and the methods and procedures they have used to have successful results will be continued.

Underground Subcommittee: The Underground Subcommittee will again be under the Chairmanship of D. E. TULLOCH, Boston Edison Co. This subcommittee will continue its emphasis on mechanization and the economical design, construction and operation of underground systems. Three task forces are being organized to study construction methods, equipment, standards and basic economics of buried systems in conjunction with the Joint EEI-Bell System Subcommittee on Buried Systems. Progress on the Joint AEIC-EEI project for Field Testing Extra High Voltage Cables at Cornell University will be reported periodically.

T. O. THOMPSON
Chairman, Prime Movers Committee

H. E. CODY
Chairman, Transmission and Distribution Committee

General Engineering Subcommittee: C. E. BATHE, Oklahoma Gas and Electric Co., will continue as Chairman of the General Engineering Subcommittee. The subcommittee plans to continue the work of the Research Activities Task Force for the purpose of coordinating research activities of transmission and distribution character among member companies and to determine those which should be sponsored wholly or in part by the EEI. Plans are underway to create a task force to develop information of assistance to member companies in negotiations of joint use contracts with the telephone companies. Other subjects scheduled for consideration during the coming year include service continuity, application of aerial cable and such application of computers in the solution of design or operating problems that will be of general interest to committee members. The subcommittee also plans to review design concepts for facilities to house transmission and distribution administrative and field forces and concepts of organization of the transmission and distribution function in utility organizations, giving consideration to the merits of centralization versus decentralization for both normal and emergency operating conditions.

Overhead Subcommittee: The Overhead Subcommittee again will be under the Chairmanship of R. HICOCK, The Connecticut Light & Power Co. Special consideration will be given to gains that can be made through mechanization. The subcommittee will also have as a major project the subject of minimizing service outages due to weather conditions and continuing to promote mutual assistance between utilities and the importance of the storm tracking system. The task group working on the mutual assistance coordination is under the Chairmanship of D. A. CAMPBELL, JR., of Pennsylvania Power & Light Co. Another item that will be followed is the tree growth control project. This project, in its first year, is following preliminary tests of several chemical formulations. Also, a program involving a street-tree plan is being developed.

Chairman H. E. CODY, General Superintendent of Lines and Service of The Cleveland Electric Illumi-

nating Co., joined the company in 1926 as a line crew groundman. He progressed through the ranks covering stores, survey, and office, assuming his present position in 1955. He attended Ohio Wesleyan University, the University of Michigan Public Utilities Executive Program, and the American Management Association Management Course. He is a member of the Cleveland Engineering Society. He has served on the EEI T&D Committee since 1953 and has served as vice chairman of the T&D Committee and chairman of the Underground Subcommittee.

TRANSPORTATION COMMITTEE

The Transportation Committee is planning its program for the coming year under the same organization as last year. W. B. STREITLE, Assistant Superintendent of the Transportation Department, Rochester Gas and Electric Corp., is Chairman, and K. G. SCANTLING, Duquesne Light Co., is Vice Chairman. As in the past, the committee will again work jointly with the AGA's Automotive & Mobile Equipment Committee. The 18th Joint AGA-EEI Spring Conference on Motor Vehicle Fleet Operation was held in Cincinnati, April 6-9. This meeting was well attended by some 160 fleet operators, supervisors, managers, and automotive engineers from all parts of the country.

W. B. STREITLE
Chairman, Transportation Committee

The highlight of the four-day session was the exhibit and demonstration of some 50 pieces of automotive equipment. It is estimated that three-quarters of a million dollars worth of equipment was on display; more than 500 people were involved, and many newspapers and periodicals, as well as television stations, participated.

The Task Group Committee which arranged this most successful outdoor display is setting its sights on a duplication at the 1960 Conference in New Orleans.

The Annual Conference Planning Meeting was held in New York, Sept. 22-23. Subjects and ideas were discussed for inclusion in the agenda for the Spring Conference. Part of the meeting was devoted to a round-table discussion of subjects pertinent to fleet operation.

Chairman W. B. STREITLE, Assistant Superintendent of the Transportation Department of Rochester Gas and Electric Corp., attended schools in Rochester, N. Y., and joined the company in 1930, serving in various capacities in the Transportation Department. From 1941 to 1946 he served as a tank unit commander under General Patton in the European theater. He holds the rank of major in the Army Reserve. Mr. Streitle returned to Rochester Gas and Electric in 1946 and in 1950 was appointed to his present position. He has served on the EEI Transportation Committee for many years.

General Division Committees

GENERAL DIVISION EXECUTIVE COMMITTEE

The General Division Executive Committee, under the Chairmanship of P. A. FLEGER, Chairman of the Board and President of Duquesne Light Co., has several important functions. The committee has general supervision over the work of the Institute's General Committees and responsibility for coordination of their respective activities. This committee also acts as an advisory committee for the EEI Board of Directors in matters of codes and standards, research and safety, and EEI committee organizations and functions.

Other members of the committee are: E. W. DOEBLER, Chairman of the Board of Long Island Lighting Co.; S. R. KNAPP, President of The Connecticut Light & Power Co. and Vice President of EEI; C. E. KOHLHEPP, President of Jersey Central Power & Light Co.; and D. C. LUCE, President of Public Service Electric and Gas Co.

Chairman P. A. FLEGER was elected Chairman of the Board and President of Duquesne Light Co. in July, 1958, having served as Chairman of the Board and chief executive officer of the company since 1950. After graduating from the law school of the University of West Virginia in 1926, Mr. Fleger joined the Philadelphia Co. system, of which Duquesne Light was a part, as a law clerk. He became assistant general attorney in 1936, and was advanced to general attorney in 1939, vice president in 1940, senior vice president in 1942, executive vice president in 1946, and president in 1952. A member of the EEI Board of Directors, Mr. Fleger received the Duquesne University annual award for leadership in management in 1956, and in 1958 was selected Man of the Year in Business by the Junior Chamber of Commerce of Pittsburgh.

ACCIDENT PREVENTION COMMITTEE

The Accident Prevention Committee came into existence in 1934. Its membership has grown steadily until it now numbers 74 members, an Atomic Plant Safety Task Force of six recognized authorities in the atomic power plant field, a Medical Task Force of eight doctors and a consultant group of three leaders in the field of resuscitation. All of these 91 persons work to a common objective: the prevention of accidental injury to the employees and customers of the electric light and power industry, and to the general public.

The committee functions primarily through an Advisory Council, 24 subcommittees, liaison representatives

to five other EEI committees, five American Standards Association committees and to the National Safety Council. The Accident Prevention Committee is a clearing house for the orderly dissemination of newly acquired information concerning the art and science of accident prevention with particular reference to the electric utility industry. A. J. NAQUIN, Safety Counselor of New Orleans Public Service Inc., is Chairman of the Accident Prevention Committee.

The committee is emphasizing strongly the problem of preventing electric shock. The plain facts on fatalities are pointed up through detailed tabulation; the facts concerning severe accidents are published and "exchanged" to Institute member companies; a poster-pamphlet-foreman's letter package is sent out monthly; new visual aids for safety training are developed as fast as time, talent and money will permit. This broad-front attack is producing results; in 1958 the industry experienced 86 reported fatalities as compared to 116 in 1957 and a 1948-1957 average of 138. Approximately three-fourths of the industry's fatalities are due to electric shock and burn.

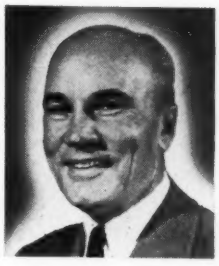
The Accident Prevention Committee provides through its "Question Box" and a semi-annual exhibit of safety devices, materials and methods a procedure for learning what is common or unique safety practice on member companies' properties.

A Uniform Safe Practices Subcommittees is codifying industry-wide safety practices. A Protective Equipment Subcommittee keeps the industry informed on the development and use of rubber and other forms of protective safety equipment.

Other subcommittees keep abreast of atomic power plant safety problems, grounding practices, non-employee overhead line contacts, linemen's climbing equipment, safeguarding energized work areas, motor vehicle fleet safety, resuscitation and Federal and state activities in the safety regulations field. To encourage national acceptance and usage of certain forms of personal protective equipment, a Publicity Subcommittee makes the suggestion to equipment manufacturers and suppliers that linemen and other electric utility employees be properly attired when shown in their ads.

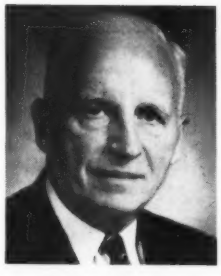
All of this activity by the Institute's Accident Prevention Committee is planned to make each individual member a more informed and effective accident prevention specialist in his company and in his community. Each member should be encouraged by his management to attend the semi-annual meetings of the committee, the next to be held in Atlantic City, November 9-11, 1959; to participate whole-heartedly in the workshop activities of the group and to get to know all of the other members. In all certainty, no safety group in the 50 states of our Federal union possesses more talent, safety know-how, enthusiasm and determination than that possessed by the former and present members of the Institute's Accident Prevention Committee. They are truly a dedicated set of men.

Chairman A. J. NAQUIN is Safety Counselor for New Orleans Public Service Inc., and heads the company's Safety Department. He received a B.E. degree in mechanical and electrical engineering from Tulane University in 1924. He joined New Orleans Public Service after two years as a student engineer with General Electric Co. and was appointed to his present post in 1941. During World War II Mr. Naquin served as vice chairman for Louisiana on the National Committee for Conservation of Manpower in War Industries. He is active in numerous national, regional and local safety organizations, many of which he helped to form. He also is associated with numerous business, professional and civic organizations.



P. A. FLEGER
Chairman, General Division Executive Committee

A. J. NAQUIN
Chairman, Accident Prevention Committee



A. M. WADE
Chairman, Awards Committee

AWARDS COMMITTEE

The Awards Committee, under the Chairmanship of A. M. WADE, Sales Vice President of The Connecticut Light & Power Co., administers the Sales Promotion Awards Program of the Institute.

The committee makes 12 awards each year for excellence in the field of sales promotion. The EEI-sponsored Awards Program was established in 1957.

By publicizing and promoting each competition, the committee endeavors to stimulate the widest possible participation among member companies. The committee appoints judges and announces the winners in each competition.

It is also the responsibility of the Awards Committee to review all new awards proposed for EEI sponsorship.

Chairman A. M. WADE is Sales Vice President of The Connecticut Light and Power Co. He joined the utility's Advertising Department in 1924 after graduating from Union College, Schenectady, N. Y. He accepted a position with General Motors in 1927 and the following year was appointed sales manager for the firm in India. He rejoined CL&P in 1932 as supervisor of sales promotion at Hartford and in 1941 was made manager of the Rockville district. In 1952 he was made CL&P's Eastern Division manager. He was elected to his present position in 1954. Mr. Wade has served as chairman of The Connecticut Farm Electrification Council and is on the Executive Committee of the Sales Executives' Conference. He is also a member of the EEI Sales Executive Committee and chairman of the Program Committee for the EEI Sales Conference in 1960.

A. S. GRISWOLD
Chairman, Electric Power Survey Committee

R. R. MACKAY, JR.
Chairman, Insurance Committee

ELECTRIC POWER SURVEY COMMITTEE

The Electric Power Survey Committee, under the Chairmanship of A. S. GRISWOLD, Vice President of The Detroit Edison Co., as a regular matter carries on three principal activities under the leadership of three vice chairmen.

C. W. MAYOTT, of The Hartford Electric Light Co. is concerned with loads and resources. This activity consists of the semi-annual collection, summarization and publication of the forecasts of summer and December peak loads, capabilities and annual energy outputs in the eight power supply regions of the country and in Hawaii. Cooperating in this work are approximately 50 power system and area representatives who report the data for practically all of the power systems throughout the country, including government-owned systems, Federal and non-Federal, as well as the investor-owned systems. Approximately 98 percent of the generating capability of the country is covered by the survey.

F. D. CAMPBELL of The Detroit Edison Co. is in charge of the activity dealing with the manufacture and supply of heavy electric power equipment. This includes steam turbine-generators, steam generators, hydraulic turbines and generators and power transformers. This activity involves keeping in close touch with the orders placed for such equipment, scheduled deliveries, shipments made, and the estimated open manufacturing capacity for the production or delivery of additional equipment, over and above that on order. Cooperating with the committee in this work are the nation's principal manufacturers of such equipment.

Complete information is published semi-annually—in April and October—together with the forecasts of loads and resources. This includes the program of expansion of electric generating facilities which lists all generating units on order in the United States and abroad that have been scheduled for service.

Other reports issued in January and July fill out the yearly series of quarterly data regarding equipment production and new generating capacity brought into commercial operation.

C. M. CUSTER of the Southwest Power Pool heads the committee's work in connection with civil defense matters. This includes activities within the power supply industry and between the industry and governmental agencies relating to plans and procedures in the event of natural disasters as well as enemy action.

Among the 17 members of the committee, there is one or more from each of the eight power supply regions of the country. The committee meets twice a year, in April and October. Most of the power system and area representatives attend the spring meeting. In addition, during the spring meeting, conferences are held with representatives of the equipment manufacturers who participate in the work of the committee.

Chairman A. S. GRISWOLD, Vice President, The Detroit Edison Co., was elected to his present office in December, 1957. He has been associated with the company since graduating from Cornell University as a mechanical engineer in 1922. During World War II, he served for three and one-half years with the WPB Office of War Utilities as the chief of the turbine and condenser section, equipment division. Since 1948 he has been active in the power aspects of government technical assistance programs. His duties at Detroit Edison concern public information and civic and community affairs. He is also responsible for management of the company's activities pertaining to atomic power development.

INSURANCE COMMITTEE

The Insurance Committee will continue its principal functions, which are to keep abreast of new and current developments in the insurance field, particularly those which are of primary concern to the electric utility industry; and, through subcommittee activity, to meet with representatives of the insurance industry and its various bureaus in an effort to develop and secure insurance coverages which will meet changing industry needs at reasonable and acceptable rates.

The committee carries out its functions primarily through the following subcommittees: Fire and Allied Lines, Boiler and Machinery, Excess Liability, Employee Benefits, Nuclear Projects, Fire Protection and Industry Practices.

All of these subcommittees are currently following what might be called active projects within the scope of their operations and will continue their efforts in their respective assignments. Principal among these activities are the following: further studies on the subject of insurance in connection with nuclear installations; additional reports concerned with the electric industry's potential fire hazards and recommended suggestions for the elimination or control of these hazards; revisions to and further expansion of existing reports showing comparison of utility industry insurance practices; and continued meetings with insurance industry representatives in the fire and boiler and machinery fields.

Should future conditions and general interest so dictate, the committee would augment the present seven standing subcommittees with such other special subcommittees as may be necessary.

The full Insurance Committee schedules a two-day meeting twice a year—one in the spring and the other in the fall. Subcommittees meet as the progress of their work may dictate or prepare reports through the medium of correspondence between the chairman and his subcommittee members.

The next meeting of the full committee will be held in Boston, Mass., on Oct. 15 and 16. The Chairman for 1959-60 is R. R. MACKAY, JR., Manager, Insurance Department of the Philadelphia Electric Co., and the Vice Chairman is A. L. BENJAMIN, The Cincinnati Gas & Electric Co.

Chairman R. R. MACKAY, JR., is Manager, Insurance Department, Philadelphia Electric Co. He was graduated from the University of Pennsylvania. Following five years of service with the United States Navy, he joined Philadelphia Electric in its Insurance Department in 1946, assuming his present position in 1953. He has been a member of the Insurance Committee since 1953 and has served as the committee's vice chairman.

LEGAL COMMITTEE

The Legal Committee is composed of senior lawyers representing various member companies. Some are heads of legal departments and others are partners in "outside" law firms.

The principal function of the Legal Committee is to provide a forum for the exchange among the committee members of current information relevant to their responsibilities. The committee meets twice a year, for the presentation and discussion of papers prepared by the members.

Occasionally legal questions are referred to the committee by the Board of Directors or by other committees of the Institute.

The next meeting of the committee is scheduled for Oct. 19-20, 1959.

The Chairman for 1959-60 is D. K. KADANE, General Counsel of Long Island Lighting Co., Mineola, N. Y.

Chairman D. K. KADANE has been General Counsel of Long Island Lighting Co. since 1950. He received degrees from the College of the City of New York and Harvard Law School. He was assistant counsel to a Senate group investigating railroad finance, special counsel and assistant director at the Securities and Exchange Commission, and assistant to the national housing administrator, prior to joining the Legal Department of Long Island Lighting in 1946. He is active in community affairs, particularly dealing with youth and intergroup relations.

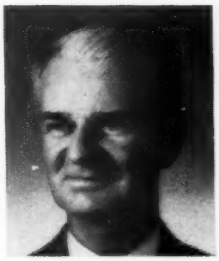
PURCHASING AND STORES COMMITTEE

The Purchasing and Stores Committee is under the Chairmanship of H. T. SIMPSON, Superintendent, Stores Department of Boston Edison Co. The Vice Chairman, Purchasing, is R. B. GEAR, Commonwealth Edison Co., and the Vice Chairman, Stores, is E. J. MARTIN, New Orleans Public Service Inc. The Executive Committee consists of the chairman; the two vice chairmen; the secretary of the Executive Committee—A. H. HAMILTON, of Northern States Power Co.; two members-at-large from Stores; two members-at-large from Purchasing; and two past chairmen of the Purchasing and Stores Committee.

The entire membership is being surveyed to determine the subjects that are of particular interest to all. From this response, topics will be developed into projects, and committees will be formed to study, analyze, and make reports at the next annual meeting, to be held at the Warwick Hotel in Philadelphia, Pa., May 2-4, 1960.

The Executive Committee is planning and arranging for a comprehensive program for the current administrative year. This planning group is mindful of the opportunity to arrange for a meaningful and rewarding program to all purchasing and stores men in the industry. They recognize the need for a program that will have practical implications and yet keep the members

D. K. KADANE
Chairman, Legal Committee



H. T. SIMPSON
Chairman, Purchasing and Stores Committee

posted on mechanized systems. These latter systems are becoming a real challenge and may offer ever-increasing opportunities for greater profits. Searching for work methods and systems that will produce improved profits is one of the basic efforts of the Executive Committee in planning for a completely thorough program.

Electric utilities aware of the importance of maintaining high efficiency in their operations are constantly developing new work methods, improved clerical procedures, and other improved techniques. It is a basic purpose of the Purchasing and Stores Committee that by exchange of ideas, experiences or studies and by a well-rounded program, the membership can be informed of these advances.

There is a broad vista of opportunity in our field: material control; contract negotiation; ownership cost studies; implementation of electronic computers in the area of material management; physical inventory systems; warehousing; issue and return of material; disposition of surplus material; scrap sales; reclamation; transportation systems; mechanized purchase order systems; clerical procedures; performance measurements and many more.

After a review of the replies from the membership on proposed topics, the project groups will be organized. These groups will make intensive studies of their assigned projects and present to the membership at the annual meeting "take-home" data on valuable experiences which are of vital concern to purchasing and stores people throughout the electric industry.

Chairman H. T. SIMPSON, Superintendent, Stores Department, Boston Edison Co., is a graduate of the Lowell Institute School, Cambridge, Mass. He was first employed by the Boston and Maine Railroad and then the Lowell Electric Light Co. He joined Boston Edison in 1922 in the Transmission and Distribution Department where he was employed in various supervisory capacities, and in 1937 became head of the Inspection and Methods Division of the Stores Department. Mr. Simpson assumed his present position in 1946. He has been a member and active participant of the Purchasing and Stores Committee since 1952.

RATE RESEARCH COMMITTEE

The Rate Research Committee has as its Chairman for the second year K. W. HASBROUCK, Assistant Vice President of New York State Electric & Gas Corp. This committee has been assigned the responsibility to study electric rates with all their associated factors and current problems. Its activities cover a wide scope from fundamentals to complex studies and research.

K. W. HASBROUCK
Chairman, Rate Research Committee

E. L. HOUGH
Chairman, Research Projects Committee

During the current year the load characteristics and rate aspects connected with residential water heating and space heating will have an important place on the program. A task force assembling information with respect to residential water heating is scheduled to submit a report on this subject in the near future. Consideration will also be given to trends in the kilowatt-hour use in various categories with their influence on rate making.

Since 1947, there has been issued at least three times a year a report by a subcommittee on rate increase developments, with a summary of each case pending in the respective states. These reports have dealt with over 500 different actions affecting more than 200 different companies. The subcommittee undertaking this work is being continued and reports will be subsequently forthcoming.

Also planned for the coming year is a review of rate fundamentals which will include discussions pertaining to the design, interpretation, and administration of electric rates with their regulatory problems.

The EEI Rate Book which contains the electric rates effective in over 6,000 cities, towns, and communities having a population of 1,000 or more, is published under the direction of the Rate Research Committee.

Chairman K. W. HASBROUCK is Assistant Vice President in charge of the Rates and Regulatory Department of New York State Electric & Gas Corp. He is a graduate electrical engineer from Rensselaer Polytechnic Institute and started with NYSE&G immediately after graduation, as a cadet in the company's management training course. Subsequently, for several years he was assistant to district and division operating managers. He then specialized in rates and regulatory matters and was assistant to the rates and regulatory vice president for a number of years. As such he was associated in the design, interpretation and administration of rates, prepared and testified on rate and other regulatory cases, studied and reported on special projects, and acted as liaison representative of the company with commission staffs. In February, 1959, he was elected assistant vice president and placed in charge of the Rates and Regulatory Department. He has been a member of the Rate Research Committee since 1945 and served as its vice chairman for two years.

RESEARCH PROJECTS COMMITTEE

The Research Projects Committee, as in previous years, plans to meet in October, February and May during the current committee year, with additional meetings being called if necessary. E. L. HOUGH, Vice President and Chief Engineer of Union Electric Co., continues as Chairman of this committee for his second annual term. W. G. MEESE of The Detroit Edison Co. is the Vice Chairman.

The Research Projects Committee was organized in 1952 in response to a growing need felt by the EEI Board for a group to screen the large number of research program proposals being directed to the Institute. Because many of these projects are technical in nature the committee's membership is comprised largely of power company executives from the engineering phase of the industry, although equally important representation is maintained on the committee by the Accounting and Sales Divisions. Reflecting this broad cross section of electric utility industry interests, the committee reviews each proposed research program, recommending to the Board EEI participation in those giving promise of contributing substantially to the advancement of the art of generating and distributing electricity.

While the over-all operation of the committee centers around the primary function of screening research proposals, its detailed activities extend somewhat further to include following programs to which EEI contributes, reviewing progress periodically and insuring that project reports are brought to the attention of the interested segment of the industry. At each Research Projects Committee meeting recent developments in these programs are discussed and as progress may warrant, EEI representatives on particular project steering groups are invited to appear before the committee to present status reports.

Research project proposals are received from a number of sources—individual utility companies, technical organizations, academic institutions, commercial research laboratories, and private investigators, although to date the majority has been suggested by the Institute's committees. Some of the programs are recommended for total EEI sponsorship. A number, however, are sponsored jointly by EEI and other organizations, or by professional technical societies with the Institute being one of a number of contributors. In certain instances the Research Projects Committee, on recognizing an area where investigation would be of industry-wide value, has considered proposals developed within the committee.

Programs originating outside of the Institute's organizations are referred by the Research Projects Committee to the appropriate EEI group whose recommendation serves as a basis for Research Projects Committee review. This procedure recently was facilitated with the appointment by the Institute's five engineering committees, the Accounting Division, and the Sales Division of special liaison representatives providing direct contact from the Research Projects Committee to each of these groups. In addition to serving as research representatives in these key organizations, the liaison committeemen transmit to the Research Projects Committee proposals from the committees or divisions of which they are members. The activities of the liaison representatives have increased as a survey of research underway or recently completed by EEI member companies has suggested a number of programs of general industry interest that should be evaluated as possibly meriting EEI consideration. Promising projects of suitable nature resulting from this survey, which was conducted by H. P. SEELYE, consultant to the Research Projects Committee,

have been referred to the appropriate committees by the liaison members.

Representative of the 20 programs to which EEI has contributed on recommendation of the Research Projects Committee and which are presently being followed by the committee are the Joint AEIC-EEI Heat Pump Committee's heat storage materials and methods project, the ASME-sponsored high temperature steam generation program, the Accident Prevention Committee's electrical resuscitation study, research activities of the ASTM-ASME Joint Committee on the Effect of Temperature on the Properties of Metals, the ASTM wood poles research program, the ASME extension of steam tables program, the ASME fluid meters research project, a jointly sponsored AEIC-Bituminous Coal Research, Inc.-EEI program on sulphur removal from coal and flue gas contaminants control, a T&D Committee-directed investigation program of tree growth control, and an AEIC-sponsored program of testing extra high voltage cables.

Chairman E. L. HOUGH is Vice President and Chief Engineer of Union Electric Co. After graduation from the University of North Dakota in 1922, he was employed by General Electric Co. in several engineering capacities. Mr. Hough was employed by the Union Electric Co. as an electrical engineer in 1928. He became chief design engineer in 1943, chief engineer in 1951, and was elected vice president in 1953. He has served on various industry committees including the Electrical Equipment Committee, the Engineering and Operating Division Executive Committee, as well as on the Research Projects Committee which he now heads.

STATISTICAL COMMITTEE

The Statistical Committee, under the Chairmanship of J. L. KENNEDY, Director of Statistics of Rochester Gas and Electric Corp., will continue its efforts towards improved statistics on the electric utility industry in the United States.

As a supplement to the "Electric Utility Industry Statistics" (formerly "Statistical Bulletin"), work will proceed on the development of a "Basic Statistical Review" to be published in 1961. This will incorporate in one volume all of the pertinent data, through 1960, which was previously published annually.

The revision of the "Glossary of Electric Terms" is progressing and a supplement covering nuclear terms will be developed for possible inclusion with the glossary.

The development of regional indices of electric power output has met with preliminary success. This project and the possible development of a national industrial power index, as well as keeping abreast of the Federal Reserve Board's activities in these areas, will continue to be one of the major projects of the committee.

Other projects for the coming year are the continued improvement of the "Annual Statistical Report" form; a further study of the proposed manual on intercompany comparisons, with the views of other EEI committees being considered; continued study of statistical reports to management; an exchange of economic information among the committee members; and possibly a study of reports to regulatory agencies.

The Statistical Committee meets twice a year and its next meeting will be held on Oct. 22-23, 1959, at The Homestead, Hot Springs, Va.

Chairman J. L. KENNEDY is Director of Statistics, Rochester Gas and Electric Corp. He is a graduate of Rochester Business Institute and has completed a specialized business course at the University of Rochester. Following affiliation with a utility contracting firm, Mr. Kennedy joined RG&E in 1940 and has served in several capacities in its Rate & Economic Research Department. In addition, Mr. Kennedy is insurance manager for RG&E and a member of the EEI Insurance Committee.

COMMITTEE ON TECHNICAL EXCHANGE FOR OVERSEAS VISITORS

The Committee on Technical Exchange for Overseas Visitors continues to be under the Chairmanship of H. E. BUMGARDNER, Assistant to President of The Detroit Edison Co. The committee, organized in July, 1954, assists on an industry-wide basis in the preparation of suitable programs for visits to the electric power companies in this country of groups or persons associated with power systems in overseas countries. It cooperates with the International Cooperation Administration and other organizations concerned with phases of technical exchange programs for overseas electric power visitors.

Through its programs, overseas electric people make permanent contacts which are useful in securing up-to-date information on management, engineering and other practices of member companies. It assists executives of EEI member companies in making contacts for overseas visits with electric power people.

Member companies are contacted for their cooperation as participants in technical exchange programs and for designation of a contact person for such matters.

This committee has cooperated in program arrangements for many electric power groups from 60 different countries which have come to the United States and for several United States groups which have gone abroad. Among the latter was the visit to European Russia in August, 1958, of 10 electric industry executives and again in July-August, 1959, when a similar group visited the Ural Mountains, Siberian and Armenian areas. Also in August, 1959, a smaller group made an electric power survey in Poland.

These visits were made as part of the technical and cultural exchange programs between the United States and the USSR, and between the United States and Poland.

Chairman H. E. BUMGARDNER, Assistant to President, The Detroit Edison Co., also serves his company as coordinator of technical exchange programs. A University of Michigan graduate, he

(*Continued on page* 344)

J. L. KENNEDY
Chairman, Statistical Committee

H. E. BUMGARDNER
Chairman, Committee on Technical Exchange for Overseas Visitors

Area Development Workshop to Be Held in Phoenix

THE Sixth Annual Area Development Workshop, sponsored by the EEI Area Development Committee, will be held at the Hotel Westward Ho in Phoenix, Ariz., Oct. 20-21, R. P. Lee, Chairman of the Committee, has announced.

Mr. Lee, who is Manager of the Area Development Department of The Connecticut Light & Power Co., said outstanding speakers have been obtained for the workshop which also will feature discussions covering the latest developments in area development. The theme is "Area Development—Your Opportunity to Grow."

The Hon. Paul Fannin, Governor of Arizona, will speak at the luncheon on Tuesday, Oct. 20. At the annual banquet Wednesday evening, Oct. 21, Donald S. Kennedy, President and Chairman of the Oklahoma Gas and Electric Co., will discuss "Russia Revisited."

Speakers at the Tuesday sessions will include:

Walter T. Lucking, President of Arizona Public Service Co., who will discuss "Integrated Planning."

Milton I. Allen, Vice President of Sales of Philadelphia Electric Co., "The Utility and the Balanced Community."

Robert H. Ryan, Executive Vice President, Industrial Planning and Development of Perini Corp., and President of Perini Land and Development Co., "Implications of Current Industrial Location Trends."

Willard V. Merrihue, Manager of Community and Business Relations for General Electric Co., "The Cold War Between the States for New Industry—and Its Implication for Area Development."

Dr. James Gillies, Assistant Dean, Graduate School of Business Administration of the University of California at Los Angeles, "Economic Aspects of Industrial Development."

The Wednesday sessions will include the following speakers:

True D. Morse, Undersecretary of Agriculture of the U. S. Department of Agriculture, "The New Rural America—of the Future."

Henry B. Sargent, President of American & Foreign Power Co., "Area Development in Latin America."

Harllee Branch, Jr., President of The Southern Co., "What a Utility President Expects from Area Development."

E. Finley Carter, President of Stanford Research Institute, "Research—Stimulus to Development."

H. McKinley Conway, Editor-Publisher of Conway Publications, Inc., "Prospects and Advertising."

A. V. K. Babcock of Arizona Public Service Co. is Workshop Chairman. J. M. Frank of Columbus and Southern Ohio Electric Co. is Chairman of the Workshop Program Committee. Other members of this committee are: C. S. Cronkright of Public Service Electric and Gas Co.; J. A. Dildy of Arkansas Power & Light Co.; and D. E. Stewart of Carolina Power & Light Co.

STATEMENT REQUIRED BY THE ACT OF AUGUST 24, 1912, AS AMENDED BY THE ACTS OF MARCH 3, 1933, AND JULY 2, 1946 (Title 39, United States Code, Section 233) SHOWING THE OWNERSHIP, MANAGEMENT, AND CIRCULATION OF

EDISON ELECTRIC INSTITUTE BULLETIN, published monthly, except July and August, bi-monthly then, at Philadelphia, Pa., for October, 1959.

1. The names and addresses of the publisher, editor, managing editor, and business managers are: Publisher, EDISON ELECTRIC INSTITUTE, 750 Third Avenue, New York City 17; Editor, Prall Culviner, 750 Third Avenue, New York City 17; Managing Editor, none; Business Manager, none.

2. The owner is: EDISON ELECTRIC INSTITUTE — not incorporated — trade association, 750 Third Ave., New York City 17; A. S. King, President, 750 Third Ave., New York City 17; H. S. Sutton, Treasurer, Consolidated Edison Co. of New York, Inc., 4 Irving Place, New York City; A. B. Morgan, Secretary, 750 Third Ave., New York City 17.

3. The known bondholders, mortgagees, and other security holders owning or holding 1 percent or more of total amount of bonds, mortgages, or other securities are: none.

4. Paragraphs 2 and 3 include, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting; also the statements in the two paragraphs show the affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner.

PRALL CULVINER, Editor

Sworn to and subscribed before me this 18th day of September, 1959.

(Seal) ERVING SCHNEIDER.

No. 24-3515100

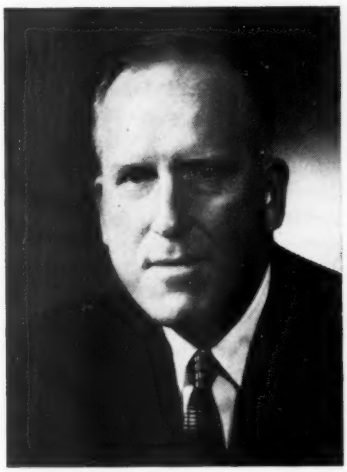
Notary Public, State of New York. (My commission expires March 30, 1961.)

General Division Committees

(*Continued from page* 343)

joined Detroit Edison in 1924 as a junior engineer and two years later became research engineer in charge of the mechanical division. Later he served in various management capacities until assuming his present position. Mr. Bumgardner is a consultant to the International Cooperation Administration and in that capacity visited Europe in 1952 and 1954 to inspect the operations of Great Britain's Central Electricity Authority and to study ICA's accomplishments. He is past chairman of the Detroit Section of the ASME and a member of the Engineering Society of Detroit, American Management Association and National Industrial Conference Board.

Action: the Realization



By J. Theodore Wolfe

President, Baltimore Gas and Electric Co.

Mr. Wolfe Sets Forth the General Principles Which May Help a Decision Be Accepted; He Also Lists Several 'Stumbling Blocks'

THERE is no question that much of the decision-making process takes place below the conscious level. Our subconscious minds can draw, without the slightest effort on our part, on the accumulated knowledge of all of our years of experience and of solving problems and making decisions, good ones and bad ones. Someone has called this use of the subconscious the "saturation - incubation - illumination" process. We pack in the facts, let them cook a while in the lower brain centers, and suddenly along comes a pretty good solution. An explanation of how all this comes about we must leave to the experimental psychologists.

Decision-Making Process

I have a little difficulty in seeing the decision-making process as one which lends itself to subdivision into a clear-cut sequence of events, though this approach may be useful as a means of analysis. On the contrary, it seems to me that the several phases of the process are highly interrelated. For example, in making a decision, the anticipated problems involved in putting into action what may appear to be a very well-reasoned and logical conclusion are going to exert a considerable effect on the nature of the final decision reached. And once one decision is made, that is not the end of it in any but the simplest problems. A whole series of decisions often follows the decision that first triggered an action. These could take many forms, including terminating one course of action that had led to undesired results and formulating an entirely new and different course of action.

My discussion falls into two broad categories:

First, there are three general principles which, if followed, seem to increase the probability that a decision will be accepted, understood, and intelligently and enthusiastically carried out by those responsible for implementing it.

Second, there are several obstacles or roadblocks that may be encountered after a decision is made, but these roadblocks might be overcome.

The first principle for securing effective action is the closest approach to a formula. It can be expressed this way: participation on the part of those who will be affected by a decision leads to commitment; and commitment leads to understanding and support of the decision and the means by which it will be carried out.

The key word in this equation is participation. It is something which must be sought and practiced with sincerity. It cannot be used successfully, in a manipulative way, simply as a gimmick or technique to gain support of an executive's preconceived idea.

The second principle, in which democracy and our business system are rooted, is a direct extension of the first. It is that the executive must be genuinely convinced that the aggregate of the thinking of many different individuals, whenever their experience is relevant to a particular problem, is likely to be better than that of one single person, no matter how great a genius he may be. I add the qualification that the experience of those who are consulted—who are asked to contribute their ideas—should be relevant, for otherwise there can be no real contribution to the quality of the solution. Two heads are better than one, even though they may not always be on the same rung of the organization ladder. I am reminded, in this connection, of the epitaph said to be inscribed on the tombstone of Andrew Carnegie:

> "Here Lies a Man
> Who Knew How to Enlist
> In His Service
> Better Men Than Himself."

When it comes to formulating the best course of action, we are in a sense all equals, even though the accountable executive retains the responsibility for the ultimate decision. The status barrier must be lowered enough to let ideas flow freely.

These first two general principles take the form, in business practice, of "consultative management."

There is a third general principle for securing effective action. I am convinced that the efforts of people are most productive when they are based on a clear understanding of the objectives of the organization. In simpler terms, employees want to know, and work better when they do know, where the business is supposed to be

An address before the Eighth Annual Utility Management Workshop of Columbia University, New York, N. Y., Aug. 6, 1959.

heading and how they can make progress toward their personal goals by helping it get there.

This job of clarifying the objectives of the organization is one which logically falls to the higher levels of management. I can't think of many problems that give the chief executive a better mental workout than trying to pinpoint the factors that seem to produce success and then expressing them as a clear statement of objective. Yet it must be done if we are to have useful participation, sound decisions and purposeful action further down the line.

There are, of course, many other elements that are important in translating decisions into action. Obviously, we need, among other things, a soundly planned organization and good communications. We must take into account the need for both timing and balance. These are major subjects in themselves.

Roadblocks to Action

If decisions are to be executed in the way the decision maker wants them to be executed—if he is to get the most wanted consequences and the fewest unwanted consequences—it is necessary to take into account the obstacles or roadblocks likely to be encountered after the time the decision is made, but before the hoped-for results can occur. It may be helpful to consider some of these roadblocks.

● *The Time Squeeze:* The time squeeze certainly must be listed as a prominent roadblock. There are occasions when decisions must be made and acted on in a hurry. A hurricane, a heavy snowstorm or some other emergency may create conditions on a utility's system that require a series of rapid decisions. These decisions may have to be made without complete knowledge of system conditions and with very limited opportunity for consultation with others. How effectively and rapidly these decisions are carried out will depend on how well the executive, when he had the time, developed a sense of spontaneous teamwork, loyalty and spirit within the organization by the principles I have mentioned. He will have done as the Chinese suggest: "Dig a well before you're thirsty."

It is when the going gets rugged, of course, that an executive is called upon to demonstrate why he was made an executive in the first place. The experienced executive should be accustomed to thinking ahead to future hazards before they become "real and present dangers." As Casey Stengel once put it, "Anybody can run a ball club when the pitching is good and everybody is hitting. It's when they ain't that you need guys like me."

It is when the chips are down that the executive must exert a personal influence, too. It was said of General George Patton, when his armored divisions were locked in combat with the German Armies during World War II, that he never allowed his troops to see him move toward the rear. He wanted to avoid the psychological impact of being seen heading away from the enemy. His method was very simple. He moved toward the front in an open jeep, or on foot. He returned to his command post in a light liaison plane.

Patton as an example for business leaders may seem far-fetched. Yet I think there is a corollary here. When things are rough, the accountable executive should at least be around. While he may not have to *do* a great deal, he should be visible and accessible. This not only demonstrates his personal interest in seeing that decisions are made and energetically pursued; it has, as George Patton well knew, some morale value as well.

The problem of effective use of executive time is by no means limited to emergencies, of course. Most executives are, I am sure, troubled at times with the thought that there is more to do in a given day than any one human being can possibly handle, even if eight hours were extended to 24. And truly, one executive cannot do it all himself. He must delegate. If he can do it all himself, he is by definition not an executive. This brings us to our second roadblock.

● *Failure to Delegate:* We have read and talked about the need to delegate authority and responsibility to subordinates until the phrase has almost lost its meaning. It has become sort of a standard preachment in books and papers about how to be a good executive, and is frequently confused with assigning work, which it is not, according to Mr. Webster. When we delegate, we pass on to a subordinate—we entrust to him—one of our own responsibilities. When we assign, we simply direct him to perform within his own job description, so to speak.

When we hear the advantages of delegation described, it is often in terms of what it will do for the delegator, and it is true that it can do a great deal. Finding the time to think—using time more effectively—reducing the pressure of unfinished jobs—are certainly important results of delegation for the executive who delegates.

Another value to the delegator has been pointed out by Morse G. Dial, Chairman of the Board of Union Carbide Corp. It is delegation's value as a self-developer. Mr. Dial has said: "A man must broaden his character to be a manager, and 99 percent of this broadening is a willingness to delegate." *

All of the necessary decisions just can't get carried into action unless there is real delegation as I have defined it, and the higher you go in an organization, the more that becomes true. Delegation does for the executive what Frank Gilbreth did for the bricklayer when he gave him a helper. The helper, by separating the good bricks from the bad ones and carrying and placing them at the proper working level, made it possible for the bricklayer to spend all his time—most of it, anyway—laying bricks rather than lifting them. An executive who fails to delegate will soon tire from lifting too many administrative bricks.

But there is another side to this question of delegation—the effect on the person to whom some of the authority and responsibility of the accountable executive are given. We have been told that the human resources are the greatest single asset of a business and the only resource capable of enlargement. All the other resources, as Peter Drucker has pointed out, stand under the laws of mechanics,** and the problem is to minimize loss (e.g., friction, line loss, interest on money loaned a business, etc.).

From this we can see the value of delegation in de-

* Business Week, Aug. 4, 1956.

** The Practice of Management, by Peter F. Drucker.

veloping the potential in people—to equip them to make and carry out their own decisions, and to grow into greater responsibilities. And it will give them a sense of personal worth and dignity, I believe, that salary and working conditions alone cannot do.

Delegation combined with participation can improve the quality of results. We think we have improved results, for example, in our budget planning. Some years ago, our cycle for preparing the operating budget went something like this. Each department head was required to price out his program for the coming year and to submit his budget estimate by a certain date. The estimates were then reviewed at a higher level, recommendations were made, and a duly approved letter was sent to the department head saying, in effect: "Your budget estimate for the coming year is approved except for items 5 and 9, which have been eliminated, and item 10, which is to be postponed for at least one year."

Our procedure is now a little different, but bear in mind that the objective or decision is exactly the same, namely to eliminate the non-essentials, keep expenditures in proper relationship to income, and improve profits. But, now, instead of standing aloof and issuing the pronouncement, "do this," we have tried to bring each department head into the act. We delegate the "action" part of the decision to him. We say, "Here's where we've got to come out. What are we going to do to get there?" The consequence: better results and time savings. The decision was the same: to make the best possible use of the available dollars in the production of profit, but the action to carry out the decision was different since it involved active, thinking participation by those who had to live with the budget. Not only is better understanding achieved; I strongly believe the chances are that the budget in the aggregate is a better budget.

Delegation is not easy for some executives, particularly if they are relatively new in their jobs. There may be a reluctance to "let go" after a decision is made. They may fear that the decision will be misinterpreted and lead to "wrong" results, or that the indicated course of action will not be pursued by their subordinates with sufficient energy and intelligence. They may tend to hover, or to intrude at inappropriate times, with the result that action and initiative on the part of subordinates are discouraged rather than stimulated.

For managing managers, the solution, I believe, is the development of the ability to manage by objective—by making clear where you expect a subordinate to get, and letting him figure out how best to get there. He should understand that the relative success of his actions is going to be measured by final results, and not by some sort of activity index that may or may not be productive.

● *Past Experience and Conditioning:* A third roadblock to effective action is our past experience, our early conditioning. Our early years in life usually don't equip us to use a consultative approach at the appropriate times. We were simply told what was to be done, by our parents, our teachers, or perhaps by superior officers in the armed services, and we were expected to do it. It is a natural and easy transition to apply this same unilateral approach in our dealings with subordinates.

I don't want to give the impression that consultation is always the appropriate action for the executive. The great majority of decisions, including those where there is no serious impact on an individual person or groups of people, must be made by one person. The limitation of time alone makes this necessary. And, as the critics of consultative management have pointed out, it can become a "leaderless activity" and a device for diffusing responsibility to the point where nothing gets done. Improperly applied, it could conceivably so discourage minority opinion as to result in the kind of "Organization Man" William Whyte* is so exercised about. But it need do none of these things. My point is this: if we can learn the advantages and appreciate the limitations of consulting, we can also learn when it is appropriate to consult.

The Matter of Consultation

This problem of developing an appreciation of the value of consultation is one that the chief executive cannot solve simply by delegation, for it is his own behavior that sets the pattern. If he considers it desirable, for example, to have interested individuals or departments consult with each other on matters of mutual concern, he must do it himself if he wants his associates to follow suit. Yet, according to at least one study,** the opposite was often true among the executives who were interviewed. While they agreed verbally with the idea that consultation was desirable, they were personally inclined to act unilaterally. At the same time, they complained that their subordinates should have consulted more widely. Now for a fourth roadblock.

● *The Executive's Preconceptions:* The executive's own attitude—his preconceptions—his conscious or subconscious bias toward one line of action, may contribute to less understanding, support, and enthusiasm on the part of those who must carry out the action. Whatever the executive's inner convictions may be, if he feels the problem is an appropriate one for consultation, he must keep his own predilections in the background until the decision is actually made, at which time his associates, if he has been really successful, will be convinced that it is their own decision which they have been asked to act upon.

We communicate in so many ways—even by remaining silent. It is all too easy to communicate the feeling that you believe one course of action is preferable to another. A slight smile or a startled expression may be enough to discourage a worthwhile contribution.

The better role for the executive, when he really wants independent thinking from his associates, is to maintain as neutral a mental stance as possible. He may even role-play a viewpoint different from his own, if he feels certain alternate actions have not been sufficiently considered. Our fifth roadblock follows.

● *Failure to Think in Terms of How an Action Affects People:* The action that follows decisions affects people. We forget that at our peril. Sometimes it is not possible, or not desirable, to consult. But it is still necessary to weigh each of the probable alternatives in our

* The Organization Man, by William H. Whyte, Jr.

** "Executive Action," by Learned, Ulrich, and Booze, Graduate School of Business Administration, Harvard University, 1951.

minds against the reaction of the people who will be affected. Otherwise, a decision which seems to meet every test of logic and common sense may be completely nullified. Being "right" is not enough.

Do you remember the jingle of Jonathan Jay?

"Here lies the body of Jonathan Jay
Who died defending his right of way.
He was right, dead right, as he sped along
But he's just as dead as if he were wrong."

I should like to illustrate from my early business experience how important it is to consider the effect of an action on people.

Twenty-seven years ago, when I came to Baltimore for the summer to work with the Gas and Electric Company, still having a year of graduate study ahead of me, I had the great good fortune to be assigned to staff work in the executive department. My then boss (or perhaps I should say my tutor) was assistant to the executive vice president. In other words, I was a staff assistant to a staff assistant, although he was a 100 per cent executive in his relationship to me.

Well, he went away on vacation, leaving me to do some preliminary work on the appraisal of a particular department (call it Department X). The very next day the executive vice president called me into his office and asked me when the report on Department X would be ready. I said that I supposed it would be ready two or three weeks after my boss got back. He said "No good" to that. "Write the report yourself and have it in my hands two weeks from today."

So, two weeks later he had the report. I forget the details, but this I remember: after suggesting that several activities of Department X be discontinued for the sake of economy—these were depression years—the report wound up with the observation that, while the department head was a very able man, if the work of his department were curtailed as suggested, it would be in order to reduce his salary by at least 25 per cent.

I presented the report in person to the executive vice president. He took one look at the cover and asked me just one question: "Has Mr. Jones (the department head) seen this?" I said, "No, I thought it was confidential." With that, he took his pencil and wrote on a piece of paper, "Mr. Jones: Any comment?", clipped the paper to the report and tossed it in his outgoing mail tray. "That will be all," he said, and you know, I believed him. I thought that Jonathan Jay had nothing on me.

I am going to remember for a long time to come that it is unwise to creep up on anyone with an unpleasant surprise. And the more critical the action that is to follow the decision, the more important that those who will be affected are considered, if not consulted, that is, unless you have an iron-clad promise that a report or recommendation is to be confidential, which sometimes is not feasible.

Certainly part of the problem of gaining acceptance of a decision is remembering that reasons and logical explanations are not enough in themselves to convince someone who feels his security or well-being is involved. If they were, the job of the executive would indeed be facilitated, for he could then confine his thinking entirely to facts, and not to emotions. But people are as they are—differently motivated, differently oriented, and possessed of the full complement of human emotions. And what is true of individuals is also true of groups. The premises on which customers base their conclusions are quite different from the premises of stockholders, and these in turn are different from those of employees.

I am glad that this is true. Otherwise, I could turn over my job tomorrow to a professor of logic, a data programmer, and an EDP machine. The sixth roadblock follows.

● *Broadly Applying an Untested Decision When It Is Not Necessary to Do So:* There is a natural inclination, particularly when much time and effort have gone into a decision, to press forward to "get the show on the road." But unless the situation requires immediate, broad-scale action, there are advantages in pre-testing a decision by taking a more limited action.

Testing Quality of a Decision

Similarly, the quality of a decision can be tested by limiting the action and hence the liability and cost of failure. And, as you may have read in a recent article in the *Harvard Business Review*, entitled "Pretest Your Long-Range Plans,"* this experimental approach will "not only reveal flaws but encourage bolder approaches to future planning. If a company has no experimental means by which to make its planning mistakes inexpensively, it tends to adopt plans that have proved themselves in the past—and to avoid those which, although promising, do depart sufficiently from experience to pose severe risks. Conservative behavior is a natural consequence of the lack of valid experimental techniques."

The authors of this article were talking about planning the best use of material resources. But I think the same idea can be applied to problems involving people. I'd like to cite another example from our company experience.

After extended discussion about two years ago, it was decided, not without some sincere disagreement, that a training program designed for newly appointed supervisors should first be given to our present supervisory forces—all those who had not actually participated in the development of the material used in the program. It seemed desirable for all supervisors to be thoroughly familiar with the materials used in the program, the way it was to be put on, etc. And frankly, I thought that a review of certain fundamental principles of supervision might not be unduly harmful in one or two cases.

Well, the simplest and quickest way to go about a thing like that would have been to train the conference leaders and begin the meetings.

But there had been some honest disagreement. There was some feeling that the supervisor of 20 or 30 years' standing might feel this was a reflection on his ability to do his job. And there was no way of being absolutely sure that the decision to have all supervisors participate, when put into action on a broad scale, would prove to be the correct one.

* By Wm. J. Platt and N. Robert Maines, issue of January-February, 1959.

The line of action adopted in this case was to pre-test the program with a few selected pilot groups of supervisors, under the conditions that would exist in a broader program. Their reactions and their suggestions for improvement were obtained. Reassured by the results, we then put the program into effect for some 1100 supervisors.

This relatively slow start not only proved that the product was acceptable, it produced some useful ideas for improving the material and the methods of presentation.

● *Over-Dependence on Statistically-Prepared Information:* Another roadblock to effective action is the tendency to expect too much from statistically-prepared information. Our success as a nation in applying physical laws to the improvement of our environment has perhaps led us to believe that measurement can be applied also to more subjective areas. Enthusiasts of automation (and I am told by my staff that no talk may be made these days without mentioning that word) seem to me to be claiming a great deal more for facts, figures, and information—even though they are rapid and concise—than is likely to be realized. Facts and figures must still be interpreted and if necessary discounted to fit the business enterprise, and human beings of which it is composed.

There is a natural tendency to hope that mathematics or statistics will produce some pat system for solving our problems. And if our problems dealt only with freight car loadings or material processing, they might. But unfortunately, our problems for the most part are not "thing" or "material" problems, they are "people" problems. We have to avoid becoming so enamored with systems of mathematical measurement that we forget that it is still the ability to relate facts not only to each other, but to the total situation, that prevents the executive from becoming obsolete.

● *Group-Tight Thinking:* We all have a tendency to limit mentally the effects of our decisions and actions to our own sphere of activity, whether it be as a member of an overhead crew or as a head of a department or company. Again we are the product of our experience, and have our own unique orientation. As young children, we first thought only in terms of the effects of our actions on ourselves. Later, possibly at the expense of some personal discomfort, we learned but didn't always remember that our actions affected others—our classmates or our parents. In our schooling, the courses were often presented as relatively unconnected fields of knowledge—finance, organization planning, engineering. Upon entering business, it is perfectly natural to continue this way of thinking in terms of one specialized activity—in terms of parts of the whole—rather than the whole itself.

The effect of this group-tight thinking is a tendency to interpret decisions passed on for action in terms of the effect of the action on our own sphere of responsibility rather than the effect on the entire organization, and indeed, the entire community.

We must somehow overcome this, and fit together in the minds of all members of our management team the various parts of our business so that each manager can better project the results of his decisions and actions on company results.

Here I come back to the need to clarify the objectives of the company and how progress toward those objectives can be measured. It's no good achieving a $1,000 monthly cost saving in an electric operating department by eliminating a foreman's report, if the direct result will be a $2,000 additional monthly cost to the clerical department that becomes responsible for the record-keeping.

If an over all orientation to the objectives of a company can be achieved, it should become easier for all managers to project the results of their decisions and actions in terms of their total effect on company operations, and to see themselves as members of a single, unified company team.

The Question of Measurement

There remains only the question of measurement. How can we tell how well we're doing? How can we tell how close we're coming to achieving these objectives?

Statistics have their limitations. There are many intangible but highly important accomplishments that we can't really measure. We can feel them but we can't measure them, except in a general way. Customer relations would be a case in point.

There is, however, one very specific economic yardstick, and after all is said and done, it is still the first job of management to produce satisfactory economic performance. It is the yardstick used by the financial community to determine a company's entitlement to capital funds, in competition with others. I have in mind earnings per share of the common stock of the corporation.

If utilities are to grow as they must grow, all of our managers must understand the significance of a sound earnings record in obtaining new capital and appreciate that their decisions and actions have an ultimate effect on earnings.

I think this is possible to achieve, and I suspect that "improving profits" may be a more positive and challenging goal than the somewhat more negative one of "cost control" or "cost reduction."

To dispel any idea that I am merely prescribing this kind of brain-stretching for lower levels of the management team, let me point out quickly that all I have mentioned applies with particular force to the higher echelons. Only, here the thinking about company objectives must be expanded to include consideration of the effect of decisions and subsequent actions in an even broader sense. It must take into account the effect of actions on the community of which they are a part, on the other members of the utility industry, and even on the national welfare, in such matters as atomic power development and the question of public ownership of the power industry. State ownership and state planning are handicapped in precisely the same way as a large business which is run as a one-man shop. It is impossible—I say that flatly—it is impossible for the plans of a single state agency to be as good as the sum total of all the long-range plans of the hundreds of companies that make up an industry, be it the production of electricity or the production of corn flakes.

Russian Power Experts Tour U. S. Electrical Facilities

A TEAM of 12 power specialists from the Soviet Union are beginning a month-long visit to electric power systems and equipment manufacturing plants in the United States, it has been announced by EEI and the Association of Edison Illuminating Companies. The Russians are guests of the electric company groups and their members.

K. D. Lavrenenko, First Deputy Minister of Electric Power Station Construction, heads the Russian team, which will visit installations in New York, Newark, Philadelphia, Washington, D. C., Detroit, Philo, Ohio, Cleveland, Denver, and Los Angeles. In addition to conventional steam and hydroelectric facilities, the Russians will see the nuclear project of the Yankee Atomic Electric Co. at Rowe, Mass., and the Enrico Fermi Atomic Power Plant at Monroe, Mich., as well as plants manufacturing heavy electrical equipment in Schenectady, Pittsburgh, and Milwaukee.

The Russian visit is part of a technical and cultural exchange program established by the United States and the Soviet Union. Ten U. S. electrical industry executives recently completed a two-week tour of Siberia, the Urals, and Armenia, which followed by a year a two-week tour of European Russian power facilities in the summer of 1958. Both trips were sponsored by EEI and AEIC, under the auspices of the U. S. Department of State. The Soviet Ministry of Electric Power Station Construction was host to the American visitors.

In addition to Mr. Lavrenenko, the members of the Russian team are:

I. A. Alekseev, Director, Institute of Thermal Electric Projects; V. S. Belousov, Director, Cherepet Thermal Electric Power Station; S. I. Berezin, Chief Engineer, Kharkov Turbine Plant; G. S. Bolshakov, Chief Engineer, State Science and Technical Committee.

Also, G. I. Ermakov, Chief Engineer, Department of Construction of Electric Power Stations; N. P. Galochkin, Chief Engineer, Foreign Department, Ministry of Power Station Construction; D. G. Kotelevsky, Chief Engineer, USSR Planning Commission (Gosplan); K. F. Potekhin, Chief Engineer, Novosibirsk Turbine Plant.

Also, V. G. Pribytkov, Engineer (Interpreter); N. V. Shchukin, Director, Ural Electric Apparatus Plant; N. Y. Turchin, Chief Engineer, Electrical Department, Ministry of Power Station Construction.

Cost of Federal Projects with Power Installations

FEDERAL projects with electric power installations have cost $7,935,000,000 through the fiscal year ended June 30, 1958.

These are the so-called multiple purpose projects started under the guise of flood control or navigation benefits. Power production has now become the dominant factor in many of these projects. Amounts spent by TVA and the Columbia River power system account for more than half of the total expenditures. The amount allocated by TVA to electric power represents 81 percent of its total fixed assets, while the amount allocated to power by the Columbia River power system is equal to 77 percent of its total investment. The largest investments have been made in the states of Tennessee and Washington which have received, respectively, 17.9 and 16.9 percent of the total expenditures.

Eighteen states which pay 56 percent of the total Federal taxes have no Federal power investment. Taxes collected from these states have made possible these projects, and non-payment of Federal taxes by the Federal agencies and the preference customers who distribute this power has increased further the tax burden of these states and other states with small Federal power investment.

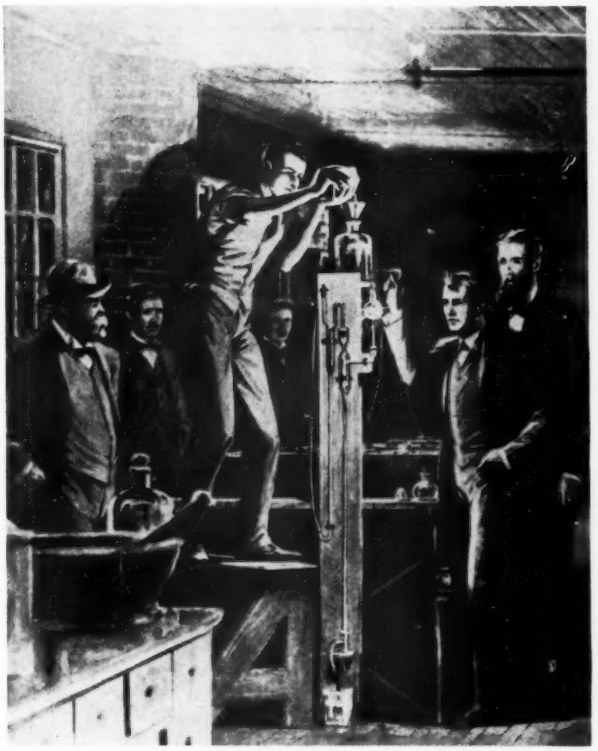
The claim often made that Federal power operations increase the Federal taxes because of increased economic activity is not supported by the record. Most of the generation and distribution in Tennessee was taken over by the TVA system in 1939. Between 1939 and 1958 the Federal tax collections in Tennessee increased 19 times. Federal tax collections increased 27 times in South Carolina and 25 times in Georgia during the same period.

Revenues received by Federal agencies for this government power during the fiscal year ended June 30, 1958, amounted to $385,567,000. No Federal taxes were paid on these sales and only very small amounts in lieu of state and local taxes. TVA paid $5,272,000 in lieu of state and local taxes out of a revenue of $233,548,000. The only other Federal project that paid sums in lieu of state and local taxes was the Boulder Canyon project which paid $300,000 each to the states of Arizona and Nevada as required by law.

There is a considerable avoidance of taxes by the preference customers in the retail sale of government power. These are local groups including municipalities, state district projects and cooperatives. These preference customers purchased about 40,255,000,000 kwhr of energy generated by these Federal projects during the fiscal year ended June 30, 1958. The price received for this power at retail by these preference customers is not available, but had the power been sold at the average price 1.71 cents per kwhr, the same as that received by the electric power industry in the U. S., the amount received after allowing for a 10 percent line loss would have been about $620,000,000. Based on the U. S. average, the investor-owned utilities would have paid $84,320,000 in Federal taxes and $59,520,000 in state and local taxes.

Edison Began His Lighting Project with $340,000; Electric Utility Companies' Plant Now Is Valued at $44 Billion

Light's 80th Birthday



The incandescent lamp was developed in the Edison Laboratory, above, Menlo Park, N. J., in October, 1879.

AN electric light bulb which burned out 80 years ago on Oct. 21, 1879, signaled the dawn of a new era —an era in which electricity would make possible advances in civilization which could not have been imagined by even so farsighted a man as the 32-year-old inventor, Thomas A. Edison.

Edison had already devoted months of research and experimentation to the development of an incandescent electric light when he began the test of a lamp using carbonized sewing thread as a filament. For 40 tense hours, Edison and his associates kept watch over the glowing filament inside a glass bulb in which a high vacuum had been painstakingly developed. Then Edison stepped up the voltage until the bulb completed its career in a blaze of glory.

This first practical incandescent electric light was a major "break-through" in the development of Edison's revolutionary electric system—the forerunner of today's great electric power industry.

In the span of a man's lifetime, electricity has wrought changes which would have challenged the imagination of Jules Verne. Tasks as old as civilization—from washing clothes to milking cows—no longer depend on human muscle. Today's electrical commonplaces would have been viewed as miracles less than 100 years ago, and we accept possibilities for the future that would have been dismissed not long ago as insane fiction.

Millions of new jobs, entire new industries, and great advances in science and technology have been brought into being by the harnessing of electricity for the benefit of mankind.

Some two million people are employed directly in the electric industry itself and in the manufacturing of electrical equipment, apparatus and appliances. Millions more are employed in electronics, radio and television broadcasting, motion pictures, phonograph records and other industries fundamentally based on electricity. Industries such as chemicals, aluminum and other light metals would not have been possible without abundant electricity.

Of the more than 65 million people in every type of job in America, there can scarcely be one who has not been benefited and whose work has not been made easier by the presence of electric service.

The average amount of electricity used by the American factory worker in 1957 had reached 25,032 kilowatt-hours and is still growing. This is the equivalent energy of 374 men helping him on his job all year long.

Today, the United States leads the world in electricity production, producing more than the next seven countries combined, and more than three times the generation of Russia, the second-ranking power producer.

In just 10 years the electric industry in the United States has more than doubled its power production, which reached nearly 645 billion kwhr in 1958. The industry's generating capability has been multiplied 2½ times since 1948, reaching about 149,500,000 kilowatts at the end of last year.

In 1958 about 14 million kw of new generating capability were added—more than the entire industry had in operation in 1920.

Carbonized sewing thread was used as the filament inside this first practical electric light, a replica of which is shown here. Thus began a great new industry.

Practicability was the key word in Edison's achievement of both the lamp and the pioneering central station he established at Pearl Street in New York City, Sept. 4, 1882, to supply electricity for his new light.

Others had invented incandescent lamps, but they were never more than experiments. But Edison's system laid the sound foundation upon which the modern electric industry is based.

His work began and reached fruition in a manner typical of the American economic system. He started his lighting project with an investment of $40,000 of his own money and an initial capitalization of $300,000 of venture money provided by a group of businessmen who had faith in Edison's ability and who appreciated his judgment of the potential value of electric service.

The faith of his backers was all the more remarkable in the face of the criticism Edison received when details of his experiments with the electric light became public towards the end of 1879. One doubter among the scientists called his achievements "Edison's new electric playthings" and said "from an economical point of view they must be a complete failure."

Nevertheless, thousands of people came to a demonstration Edison held on New Year's Eve at Menlo Park, N. J. They saw the laboratory buildings "brilliantly illuminated" with glass bulbs containing brightly glowing thread-like loops.

They saw a small electric motor pumping water and running a sewing machine. Visitors heard Edison point out that electricity for power would be an important factor in the practicality of his system, since an electric plant "would be kept in use nearly all day and all night —in the daytime furnishing power, in the night time furnishing illumination."

One of the newspaper accounts of the event reported that "in the summer, Mr. Edison proposes to have small motors, that would be a table ornament to keep fans waving to cool heated ladies."

When Edison was asked about the exact cost of the new light he was quoted as saying: "After the electric light goes into general use, none but the extravagant will burn tallow candles."

Price of Electricity Dropped

As a matter of fact, Edison's original customers paid about 25 cents per kilowatt-hour for their service. Since that time, the average price per kilowatt-hour of electricity used in the home has gone down almost continuously, and at the end of last year was 2.53 cents—about one-tenth the price at the start of the industry.

This record has come about despite the influence of inflationary factors on everything going into the manufacture and delivery of electric power. Today, the average price per residential kilowatt-hour is about one-third of what it was in 1913 before World War I—and the cost of living is nearly three times as great.

Electricity's place in the family budget is very small, despite the many services it performs and the steadily increasing quantities being used. In 1958, an average of only nine-tenths of 1 percent of each dollar spent by American families living in cities went for electricity—and Americans enjoyed dozens of new services.

In 1958, nearly five times as much was spent for liquor and tobacco as was spent on electricity. Beer, whiskey, cigarettes and cigars took up 4.3 percent of the consumer's dollar. The ladies spent as much on cosmetics as was spent on electricity.

In comparison with the way other prices have been going, electricity's record may seem unbelievable. But this economic miracle embodies high achievement in research and development and continually growing efficiency in operation coming through the efforts of countless engineers, scientists, financiers, and men in many other walks of life who have followed Edison.

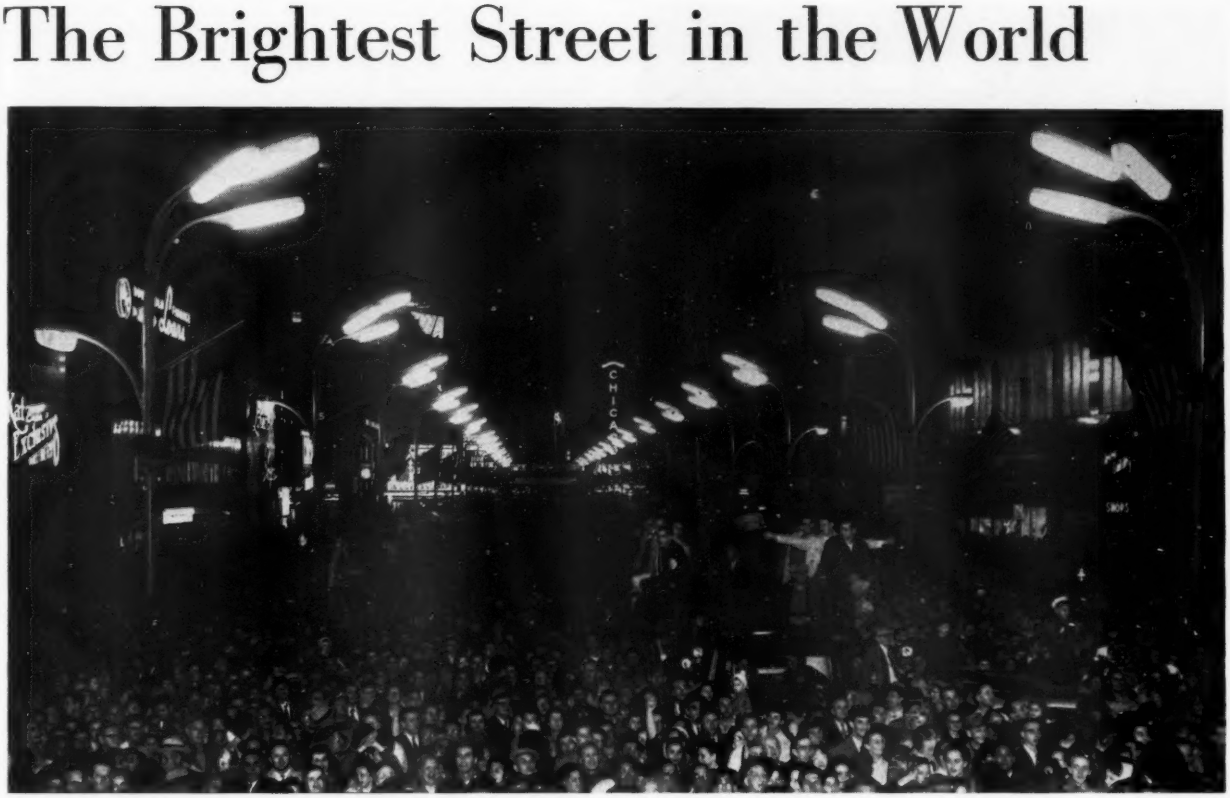
Use of Electricity Expanded

Expansion in electricity use has been a big factor in lowering the cost of each kilowatt-hour. The tremendous flow of new devices, machines, and applications constantly being developed to use electricity is basic to the constant increase in electricity consumption in homes, stores, offices, farms and industries throughout the land. And this expansion has been helped by electric company sales efforts, pointing out the advantages of putting electricity to work in just about every phase of human activity.

It took years of dedicated effort on the part of the electric industry pioneers to convince people that electric motors were better than ungainly steam engines, and that electric lights were better than gas or even kerosene lamps.

(*Continued on page* 356)

The Brightest Street in the World



More than 300,000 persons packed State Street in Chicago when the new lighting system was turned on by President Eisenhower. The 70-pole installation uses 280 king-size fluorescent luminaires providing 233,200 lumens per pole.

The New Lighting System on Chicago's State Street Not Only Provides Additional Revenue for Commonwealth Edison, but Has Also Inspired Many of the Merchants to Rehabilitate Lighting in Windows and Stores

By John D. Weber
Senior Sales Engineer, Commonwealth Edison Co.

WHEN President Eisenhower pressed a telegraph key less than a year ago to turn on what is described as the world's most advanced and brightest street lighting system on State Street in Chicago, the effects and benefits were many and far-reaching.

Not the least of these benefits were the increase in annual kilowatt-hour sales along this 5300-foot street from 134 000 to 1,120,000 and an annual increase in revenue from about $1,385 to nearly $26,000 for Commonwealth Edison Co. The company cooperated with the merchants in installing the new lighting.

An immense amount of good will was fostered as a result of the close work and cooperation between Commonwealth Edison and some of its largest and most prominent customers. A feeling of pride was generated in the company at having the world's brightest lighting system located in its service area. Public interest in lighting which occurred as a result of the new installation was tremendous. Many merchants subsequently improved their show window lighting and several rehabilitated the interior lighting in their stores.

The installation was made in a seven-block area along State Street between Lake and Van Buren Streets. The 70-pole installation uses 280 king-size fluorescent luminaires which produce about 15 footcandles of light—seven times the intensity generally regarded as good "whiteway" lighting. Each 36-foot pole carries four luminaires arranged in a novel, tree-like design. Six six-foot "Power-Groove" lamps in each luminaire generate a total of 233,200 lumens per pole or 15,624.000 lumens for the entire system.

The system is designed to provide quality, glareless light and is America's first radio-controlled street lighting system. Radio receivers installed in the base of each pole control the lighting system by interpreting "beeps" from a central transmitter. By this means all lights are

The master control radio transmitter for the State Street lighting system is inspected by, from left: Lloyd M. Johnson, kneeling, Commissioner of Streets and Electricity, City of Chicago; J. Chalmers O'Brien, President of the State Street Lighting Association; and John D. Weber of the Commonwealth Edison Co.

turned on at dusk, a portion are turned off at midnight, and all remaining lights are turned off at dawn. Festoon lighting for seasonal decorations can also be controlled in this way.

Heating units are provided to maintain proper operating temperatures for the radio receivers and a forced-air cooling system built into the individual luminaires assures maximum light output.

Front-to-Front Lighting

The design concept of the poles is based on providing lighting from building fronts on one side of the street to building fronts on the opposite side, rather than the normal concept of from curb line to curb line. The luminaire reflector design provides an upward component of light representing about 20 percent of the total light onput. This was effected to provide a cheerful atmosphere for the entire shopping area, both vertically and horizontally.

There is nothing uniform about the street spacing areas. The width of the street varies from 94 to 112 feet, building front to building front. This has resulted in pole spacings which vary from 78 to 112 feet, or an average of 95 feet. Poles are located opposite each other on the basis of 10 per block, five on each side of the street. The lighting system is nearly 3300 lumens per lineal foot of roadway, three times the intensity of the next highest known lighting system.

Poles Cost $7,500 Each

The complete pole units cost an average of $7,500 each, installed. The City of Chicago contributed $1,200 toward each pole and the balance of the cost was paid for by the merchants.

The poles are serviced every three months. The luminaires are cleaned, defective lamps and ballast are replaced, and instrument testing is performed on all radio equipment. The lamps are handled on a group replacement basis. All lamps are replaced at 80 percent of normal burning life.

Because of the attention received by the new street lighting system before the turning-on ceremony, more than 300,000 people assembled in State Street for the event. A week-long, concerted campaign to focus attention on the value of good lighting preceded the ceremony. Each major store on State Street featured a display of lighting in one of its show windows. The displays covered virtually every aspect of lighting, including historical light sources, a collection of all the bulbs currently in production, movies on lighting, novelty displays and demonstrations of the old method of glass blowing to produce light bulbs.

Ceremony Widely Advertised

Full-page advertisements were carried in Chicago newspapers and radio and television announcements urged the public to witness the turn-on ceremony.

On the evening of the turn-on, State Street was closed to traffic at 6:30 p.m. and 50 searchlights were used to light up the sky, drawing attention to the event. "Light Through the Ages," a pageant performed by 100 professional actors, told the story of light. The finale of the show was the actual turn-on of the lights by President Eisenhower.

Special editions of the Chicago newspapers containing stories on the lighting of State Street, as well as lighting in general, were given to those attending the event.

There were hundreds of items in the nation's press, and extensive coverage by television and radio. National consumer and trade magazines published State Street features. Requests for information were received from schools, municipalities, foreign governments and technical societies.

State Street merchants are extremely pleased with the new lighting. They feel it has stimulated evening shopping, added to the appearance of the street and produced additional sales.

This action corresponds in many ways with the activities in 1926 when Commonwealth Edison worked with the State Street merchants to install what was to continue for a quarter of a century as the world's brightest lighting system. That system was officially turned on by President Coolidge.

Willis Gale, Chairman of the Board of Commonwealth Edison, aptly summed up the company's part in the installation when he said:

"We are proud of the role our company has played in bringing about the creation of this revolutionary lighting system. When Edison joined with the State Street Lighting Association some 32 years ago to develop what was then the world's brightest street lighting system, we set a precedent which other cities quickly followed. Now, we feel the cycle is repeating. State Street is again the best lighted thoroughfare in America."

People in Power

JOHN K. DAVIS, Executive Vice President of The Toledo Edison Co., has been elected President and General Manager of the electric company. He succeeds the late CHARLES E. IDE.

ALOIS HOEFLE, Chief Electrical Engineer, was appointed Administrative Vice President and JOHN H. BARKER was elected Vice President in Charge of Public Relations, both newly-created offices. Mr. Barker, formerly director of public relations, also was elected to the Edison board. CHARLES E. FLAHIE, Transmission and Distribution Engineer, will succeed Mr. Hoefle as Chief Electrical Engineer.

Mr. Davis has worked for Toledo Edison and associated electric utility companies for more than 30 years. He began his utility career in 1927, working during school vacation periods. After graduating from the Virginia Military Institute with an electrical engineering degree in 1929, he joined Cities Service Co., former parent concern of Toledo Edison, as a cadet engineer. During his training period he worked with the Public Service Co. of Colorado, before returning to Bristol as an engineer for the East Tennessee Light and Power Co.

In 1946, after his discharge from the Army as a lieutenant colonel, Mr. Davis came to Toledo Edison as personnel director. He became vice president and a director in 1949 and was given added duties as assistant general manager in 1955.

Mr. Hoefle, who was graduated from State College of Washington in 1923, also received training as a cadet engineer in Colorado. He worked for Cities Service before coming to Toledo in 1925 as an Edison distribution engineer. He served as manager of operations of the Toledo and Indiana Railroad and assistant to the Edison vice president of operations before being called to active military service in 1941. He returned to Toledo Edison as superintendent of the system operating department in 1946 and was named chief electrical engineer in 1953. He is a fellow in the American Institute of Electrical Engineers.

Mr. Barker came to Toledo in 1937 after graduation from the University of Michigan with a journalism degree. He worked as a reporter and business editor of the *Toledo Times* for five years, joining the Edison company as publicity director and employee magazine editor in 1942.

Mr. Flahie is a graduate of the University of Michigan, where he earned a degree in mechanical engineering. An Edison employee since 1931, he also trained as a cadet engineer in Colorado and has served as Edison's superintendent of the underground lines and meter departments before becoming transmission and distribution engineer in 1950.

ROBERT F. KRAUSE, President of New England Power Co., wholesale subsidiary of New England Electric System, has been named a Vice President of NEES, succeeding RALPH E. NOCK who has retired after 47 years of service with New England Electric companies. Mr. Krause will be responsible in the general area of management for retail operations of the system's electric and gas companies which supply utility service to more than 1,000,000 customers in the New England area.

CHANDLER W. JONES, Vice President of NEP, becomes engineering and operating head of the wholesale subsidiary with system-wide responsibility for operations.

FRANK R. JOSLIN, Construction Manager, becomes an NEP Vice President. CLIFFORD HARTLEY succeeds Mr. Joslin as Construction Manager of NEP.

R. LEIGH FITZGERALD, Secretary of NEES, becomes Assistant to the President. He continues as Secretary.

Under the new setup, IRWIN L. MOORE, Chairman of NEES, resumes the post of President of New England Power, vacated by Mr. Krause.

Chairman Moore said the current moves essentially complete the functional alignment of system-wide activities since treasury and accounting, legal, and public relations already are organized along these lines.

JOHN K. DAVIS

JOHN EILERING, a Division Commercial Manager of Commonwealth Edison Co.'s Public Service Company Division, has been named Division Vice President of the utility. He succeeds RALPH S. PETERSON who is retiring after 37 years with Commonwealth Edison. Mr. Eilering joined the Chicago utility in 1940. He first was associated with engineering activities and then became supervising engineer of station construction in 1955. He will be in charge of operations for a mid-city company area.

Four new Vice Presidents have been named by American & Foreign Power Co. They are: RICHARD A. LUCEY, WILLIAM J. ROLFS, JOHN G. TRUE and WILLIAM S. NYDORF.

Mr. Lucey joined Electric Bond & Share Co. in 1927 and since has been associated with affiliates of A&FP in Ecuador and the Caribbean. In 1956 he was named assistant coordinator of operations and last year was promoted to coordinator. Mr. Rolfs joined Electric Bond & Share in 1927 and for 18 years was with its Nebraska Power Co. affiliate, now the Omaha Public Power District. In 1945 he joined Ebasco International Corp. as rate sponsor and in 1957 was named coordinator of operations. Mr. True joined Ebasco International in 1945 as sponsor engineer for AF&P's Brazilian affiliates and for 13 years has worked with operating companies in South America. Mr. Nydorf joined Ebasco International in 1950 and will continue to head the client utility financing department.

JOSEPH P. HEALEY, Assistant General Counsel of Boston Edison Co., has been named Vice President and General Counsel of the utility. He succeeds FREDERICK M. IVES, Vice President and Chairman of the Board of Directors, who resigned as General Counsel Aug. 1. Mr. Healey is a former Massachusetts Commissioner of Corporations and Taxation. He also has been a partner in the Boston law firm of Hemenway & Barnes and a professor of corporate law at Boston College Law School. Mr. Ives will continue as Vice President and Board Chairman.

The following promotions have been announced at Idaho Power Co.:

J. F. EMERY, H. R. MOORE and R. F. BALL, have been named Vice Presidents; M. M. ILCH becomes Treasurer; H. P. SNYDER and E. H. JOHNSMEYER were made Assistant Treasurers.

Mr. Emery, who was Superintendent—Electrical Operations and Construction—will be responsible for engineering, planning and construction of the company's operating facilities.

Mr. Moore, who was Superintendent of Power, will supervise power plant operations and coordination of Idaho Power's interconnected system with the Northwest Power Pool.

Mr. Ball, who was Assistant to the President, will be responsible for public and customer relations and also will handle special assignments.

REAR ADMIRAL LEON J. JACOBI, USNR, has been appointed Director of The Detroit Edison Co.'s Civil Defense Department. He is responsible for coordinating intra-company war emergency plans both with governmental and community defense programs and with his company's own extensive emergency service restoration program. He was supervising engineer, Inspection and Standards Division, and succeeds H. B. TYREE, retired. The new defense director has been with Edison 33 years and was a 1952 winner of the company's Alex Dow Award for outstanding achievement. He was graduated from the United States Naval Academy in 1920. After five years as a Navy officer, he joined Detroit Edison in 1926. In 1940 he was recalled to active duty encompassing the entire period of World War II. During the war he served in the Atlantic Fleet, first as executive and commanding officer of the USS Dubuque, and later for three years as staff engineer, service force.

In 1948, after returning to Detroit Edison, he served on the Hoover Commission for reorganization of the U. S. government's executive branch.

VINCENT J. HAYES, Electrical Engineer of The Connecticut Light and Power Co., has been promoted to Assistant Chief Engineer of the company. He will be succeeded by JOHN M. SCHAMBERGER as Electrical Engineer. Mr. Hayes was graduated from the Sheffield Scientific School of Yale University in 1925. He joined CL&P in the Test Department in 1926 and transferred to the Engineering Department in 1937. He became electrical engineer in 1950.

Earlier this year, Mr. Hayes was made a Fellow in the American Institute of Electrical Engineers in recognition of his role in planning a unified transmission system for the three major utilities in Connecticut. He is a member of the EEI Electrical System and Equipment Committee.

CHARLES E. HOEFLER has been appointed Assistant Manager of the Better Light Better Sight Bureau in New York. He received B.A. and M.A. degrees at the University of Michigan before joining Tobin's Lake Studios, Inc., an independent commercial design studio in Michigan, where he was employed for five years on accounts for Wilding Picture Productions, Inc. He joined BLBS earlier this year.

Light's 80th Birthday

(*Continued from page 352*)

Such was the state of public acceptance that even such an obvious boon as the electric iron was given away by electric companies to increase power use. With enough electric irons in the hands of its customers, an electric company could operate its plant during Tuesday's daylight hours—because Tuesday was usually ironing day. On other days the electric plant would operate only at night for lighting.

From the very beginning, America's investor-owned electric light and power companies have been the primary force in bringing the benefits of electricity to the people of this nation. Over the years, the electric industry has met the demands for power both in peace and war, and is building to meet the demands of the future.

Investors in the nation's electric companies have grown from the small group of original backers to an estimated 3.8 million stockholders who are the direct owners of the investor-owned companies.

Today, the total value of plant and equipment of the electric companies is approximately $44 billion. This would be a staggering sum to Edison, who said on the occasion of Light's Golden Jubilee in 1929: "I must confess that I never dreamed that from (the incandescent lamp) would come the stupendous electrical industry of today." The year that Edison made that statement, the electric companies' plant investment totaled about $11 billion—about one-fourth of what it is now.

"Stupendous" as the industry may have seemed in 1929 compared with its beginnings, its size and contributions to civilization have multiplied many times in the three decades since the Golden Jubilee. But Edison's concept of electricity's mission is as good now as it ever was. This is what he said in 1928:

> "So long as there remains a single task being done by men or women which electricity could do as well, so long will that development be incomplete. What this development will mean in comfort, in leisure, and in opportunity for the larger life of the spirit, we have only begun to realize."

EDISON ELECTRIC INSTITUTE OFFICERS AND COMMITTEES

OFFICERS

ALLEN S. KING, *President*.....Northern States Power Co., Minneapolis, Minn.
SHERMAN R. KNAPP, *Vice President*.....The Connecticut Light & Power Co., Berlin, Conn.
EDWIN VENNARD, *Vice President and Managing Director*.....750 Third Ave., New York, N. Y.
H. S. SUTTON, *Treasurer*.....Consolidated Edison Co. of New York, Inc., New York, N. Y.
A. B. MORGAN, *Secretary and Assistant Managing Director*.....750 Third Ave., New York, N. Y.

BOARD OF DIRECTORS

(Terms expiring 1960)

W. C. BECKJORD, The Cincinnati Gas & Electric Co.
W. C. BELL, The United Illuminating Co.
J. F. DAVENPORT, Southern California Edison Co.
T. W. DELZELL, Portland General Electric Co.
G. S. DINWIDDIE, New Orleans Public Service Inc.
WILLIS GALE, Commonwealth Edison Co.
M. L. KAPP, Interstate Power Co.
W. T. LUCKING, Arizona Public Service Co.
W. W. LYNCH, Texas Power & Light Co.
L. C. MCCLURKIN, Savannah Electric and Power Co.
J. J. MCDONOUGH, Georgia Power Co.
W. B. MCGUIRE, JR., Duke Power Co.
A. R. SCHILLER, Public Service Co. of New Hampshire
G. W. VAN DERZEE, Wisconsin Electric Power Co.
J. T. WOLFE, Baltimore Gas and Electric Co.

(Terms expiring 1961)

J. K. BUSBY, Pennsylvania Power & Light Co.
D. C. COOK, American Electric Power Co., Inc.
E. W. DOEBLER, Long Island Lighting Co.
R. R. DUNN, Potomac Electric Power Co.
C. E. EBLE, Consolidated Edison Co. of New York, Inc.
F. I. FAIRMAN, Kentucky Utilities Co.
P. A. FLEGER, Duquesne Light Co.
D. E. KARN, Consumers Power Co.
D. S. KENNEDY, Oklahoma Gas and Electric Co.
E. D. SHERWIN, San Diego Gas & Electric Co.
N. R. SUTHERLAND, Pacific Gas and Electric Co.
L. V. SUTTON, Carolina Power & Light Co.
W. F. TAIT, JR., Public Service Electric and Gas Co.
WILLIAM WEBSTER, New England Electric System
C. H. WHITMORE, Iowa-Illinois Gas and Electric Co.

(Terms expiring 1962)

E. R. ACKER, Central Hudson Gas & Electric Corp.
W. L. CISLER, The Detroit Edison Co.
J. E. CORETTE, The Montana Power Co.
G. W. EVANS, Kansas Gas and Electric Co.
O. T. FITZWATER, Indianapolis Power & Light Co.
R. A. GIBSON, The Hartford Electric Light Co.
R. E. GINNA, Rochester Gas and Electric Corp.
E. L. LINDSETH, The Cleveland Electric Illuminating Co.
J. W. MCAFEE, Union Electric Co.
H. M. MILLER, Columbus and Southern Ohio Electric Co.
E. M. NAUGHTON, Utah Power & Light Co.
J. L. RICE, JR., The West Penn Electric Co.
H. P. TAYLOR, Wisconsin Public Service Corp.
O. TITUS, Metropolitan Edison Co.
D. J. TUEPKER, Public Service Co. of Oklahoma

ADVISORY COMMITTEE

D. C. BARNES, Virginia Electric and Power Co.
A. D. BARNEY, The Hartford Electric Light Co.
J. B. BLACK, Pacific Gas and Electric Co.
HARLLEE BRANCH, JR., The Southern Co.
H. J. CADWELL, Western Massachusetts Electric Co.
C. P. CRANE, Baltimore Gas and Electric Co.
C. B. DELAFIELD, Consolidated Edison Co. of N. Y., Inc.
T. G. DIGNAN, Boston Edison Co.
E. H. DIXON, Middle South Utilities, Inc.
G. M. GADSBY, Utah Power & Light Co.
D. C. LUCE, Public Service Electric and Gas Co.
G. L. MACGREGOR, Texas Utilities Co.
E. J. MACHOLD, Niagara Mohawk Power Corp.
P. B. MCKEE, Pacific Power & Light Co.
I. L. MOORE, New England Electric System
G. C. NEFF, Wisconsin Power and Light Co.
C. E. OAKES, Pennsylvania Power & Light Co.
J. S. OSBORNE, Central & South West Corp.
HAROLD QUINTON, Southern California Edison Co.
R. G. RINCLIFFE, Philadelphia Electric Co.
K. M. ROBINSON, The Washington Water Power Co.
W. H. SAMMIS, Ohio Edison Co.
MCGREGOR SMITH, Florida Power & Light Co.
PHILIP SPORN, American Electric Power Co., Inc.
F. M. TAIT, The Dayton Power and Light Co.
J. B. THOMAS, Texas Electric Service Co.
E. S. THOMPSON, The West Penn Electric Co.
ALLEN VAN WYCK, Illinois Power Co.

EXECUTIVE COMMITTEE

E. R. Acker, C. E. Eble, Willis Gale, E. L. Lindseth, W. W. Lynch, J. W. McAfee, N. R. Sutherland, L. V. Sutton, G. W. Van Derzee

CHAIRMEN OF EDISON ELECTRIC INSTITUTE COMMITTEES

COMMITTEES OF THE BOARD OF DIRECTORS

Atomic Power, E. L. LINDSETH.....The Cleveland Electric Illuminating Co., Cleveland, Ohio
Management Practices, S. L. DRUMM.....West Penn Power Co., Greensburg, Pa.
Membership, E. S. THOMPSON.....The West Penn Electric Co., New York, N. Y.
Policy on Power & Pooling, C. E. OAKES.....Pennsylvania Power & Light Co., Allentown, Pa.
Regulation, C. E. KOHLHEPP.....Jersey Central Power & Light Co., Denville, N. J.
Relations with Educational Institutions, S. R. KNAPP.....The Connecticut Light & Power Co., Berlin, Conn.
Rural Electrification, W. W. LYNCH.....Texas Power & Light Co., Dallas, Texas
Special Tax Policy, D. S. KENNEDY.....Oklahoma Gas and Electric Co., Oklahoma City, Okla.
Technical Appraisal Task Force on Nuclear Power, J. F. FAIRMAN..Consolidated Edison Co. of N. Y., Inc., New York, N. Y.

CHAIRMEN OF EDISON ELECTRIC INSTITUTE COMMITTEES
(Continued)

ACCOUNTING DIVISION

Accounting Division Executive, P. R. LAWSON — Pennsylvania Electric Co., Johnstown, Pa.
Coordinator of Customer Activities Group, D. M. ARNOLD — Pennsylvania Power Co., New Castle, Pa.
Accounting Division Customer Relations, J. B. WHITE, JR. — Duquesne Light Co., Pittsburgh, Pa.
Customer Accounting, R. G. MAAS — Wisconsin Electric Power Co., Milwaukee, Wis.
Customer Collections, M. G. WUEST — The Cincinnati Gas & Electric Co., Cincinnati, Ohio
Coordinator of General Activities Group, G. A. BROWNMILLER — The Connecticut Light & Power Co., Berlin, Conn.
Depreciation Accounting, C. D. DAVIS — The Detroit Edison Co., Detroit, Mich.
General Accounting, M. J. DOAN — The Cincinnati Gas & Electric Co., Cincinnati, Ohio
Internal Auditing, R. W. BRIGGS — Virginia Electric and Power Co., Richmond, Va.
Plant Accounting and Property Records, P. D. JOHNSON — Consolidated Edison Co. of New York, Inc.
Taxation Accounting, A. G. MAIHOFER — The Detroit Edison Co., Detroit, Mich.
Coordinator of Special Activities Group, W. T. HAMILTON — The Cleveland Electric Illuminating Co., Cleveland, Ohio
Accounting Employee Relations, W. E. GRINTER — Consumers Power Co., Jackson, Mich.
Application of Accounting Principles, W. G. CHRISTIE — General Public Utilities Corp., New York, N. Y.
Electronic Accounting Machine Developments, R. E. HARBAUGH — Philadelphia Electric Co., Philadelphia, Pa.
Methods and Procedures, J. P. WILLIAMSON — The Toledo Edison Co., Toledo, Ohio
Uniform System of Accounts, E. H. HEGMANN — Duquesne Light Co., Pittsburgh, Pa.

CUSTOMER, EMPLOYEE AND INVESTOR RELATIONS DIVISION

Customer, Employee and Investor Relations Executive, C. E. OAKES — Pennsylvania Power & Light Co., Allentown, Pa.
Customer Relations, KIMBALL JACK — The Washington Water Power Co., Spokane, Wash.
Industrial Relations, W. H. SENYARD — Louisiana Power & Light Co., New Orleans, La.
Investor Relations, W. H. ZIMMER — The Cincinnati Gas & Electric Co., Cincinnati, Ohio

ENGINEERING DIVISION

Engineering & Operating Division Executive, W. L. CHADWICK — Southern California Edison Co., Los Angeles, Calif.
Electrical System & Equipment, R. G. MEYERAND — Union Electric Co., St. Louis, Mo.
Hydraulic Power, K. O. STRENGE — The Washington Water Power Co., Spokane, Wash.
Meter & Service, C. P. STAHL — Wisconsin Power and Light Co., Madison, Wis.
Prime Movers, T. O. THOMPSON — Wisconsin Electric Power Co., Milwaukee, Wis.
Transmission & Distribution, H. E. CODY — The Cleveland Electric Illuminating Co., Cleveland, Ohio
Transportation, W. B. STREITLE — Rochester Gas and Electric Corp., Rochester, N. Y.

GENERAL DIVISION

General Division Executive, P. A. FLEGER — Duquesne Light Co., Pittsburgh, Pa.
Accident Prevention, A. J. NAQUIN — New Orleans Public Service Inc., New Orleans, La.
Awards, A. M. WADE — The Connecticut Light & Power Co., Berlin, Conn.
Electric Power Survey, A. S. GRISWOLD — The Detroit Edison Co., Detroit, Mich.
Insurance, R. R. MACKAY, JR. — Philadelphia Electric Co., Philadelphia, Pa.
Legal, D. K. KADANE — Long Island Lighting Co., Mineola, N. Y.
Purchasing and Stores, H. T. SIMPSON — Boston Edison Co., Boston, Mass.
Rate Research, K. W. HASBROUCK — New York State Electric & Gas Corp., Ithaca, N. Y.
Research Projects, E. L. HOUGH — Union Electric Co., St. Louis, Mo.
Statistical, J. L. KENNEDY — Rochester Gas and Electric Corp., Rochester, N. Y.
Technical Exchange for Overseas Visitors, HARVEY BUMGARDN R — The Detroit Edison Co., Detroit, Mich.

SALES DIVISION

Sales Division Executive, E. O. GEORGE — The Detroit Edison Co., Detroit, Mich.
Commercial Group, L. T. CALE — Alabama Power Co., Birmingham, Ala.
Commercial Cooking & Water Heating, J. L. BEAVER — Metropolitan Edison Co., Reading, Pa.
Commercial Lighting, G. J. GILLEN — Consolidated Edison Co. of New York, Inc., New York, N. Y.
Electric Space Heating & Air Conditioning, L. E. BLADES — Arkansas Power & Light Co., Little Rock, Ark.
Street and Highway Lighting, L. H. LINGEMANN — Duquesne Light Co., Pittsburgh, Pa.
Farm Group, P. R. SCHEPERS — Consumers Power Co., Jackson, Mich.
Farm Development, L. T. WANSLEY — Georgia Power Co., Atlanta, Ga.
Farm Promotion, VIRGIL MARVIN — The Toledo Edison Co., Toledo, Ohio
Industrial Power & Heating Group, P. W. MCCORMICK — Union Electric Co., St. Louis, Mo.
Competitive Service, R. W. BASCHNAGEL — Rochester Gas and Electric Corp., Rochester, N. Y.
General Power & Heating, J. H. AHRENS — The Hartford Electric Light Co., Hartford, Conn.
Industrial Sales Methods & Development, A. D. SPILLMAN — Philadelphia Electric Co., Philadelphia, Pa.
Residential Group, R. G. MACDONALD — West Penn Power Co., Greensburg, Pa.
Home Service, JUDITH O'FLAHERTY — Philadelphia Electric Co., Philadelphia, Pa.
Residential Appliance Promotion, E. J. HURLEY — The Detroit Edison Co., Detroit, Mich.
Residential Electric Space Heating, J. H. K. SHANNAHAN — American Electric Power Service Corp., New York, N. Y.
Residential Lighting Promotion, J. R. WATERS — Monongahela Power Co., Fairmont, W. Va.
Residential Wiring Promotion, J. R. FURBER — Northern States Power Co., Minneapolis, Minn.
Advertising, W. E. PIERCE — Commonwealth Edison Co., Chicago, Ill.
Area Development, R. P. LEE — The Connecticut Light & Power Co., Berlin, Conn.
Electrical Living Policy, G. W. OUSLER — Duquesne Light Co., Pittsburgh, Pa.
Market Research Committee, C. W. MEYTROTT — Consolidated Edison Co. of New York, Inc., New York, N. Y.
Sales Personnel & Training, G. J. STEFFEN — Union Electric Co., St. Louis, Mo.

, Pa.
e, Pa.
, Pa.
Wis.
Ohio
Conn.
Mich.
Ohio
d, Va.
, Inc.
Mich.
Ohio
Mich.
N. Y.
a, Pa.
Ohio
, Pa.

, Pa.
Wash.
s, La.
Ohio

Calif.
, Mo.
Wash.
Wis.
Wis.
Ohio
N. Y.

, Pa.
, La.
Conn.
Mich.
, Pa.
N. Y.
Mass.
N. Y.
, Mo.
N. Y.
Mich.

Mich.
Ala.
, Pa.
N. Y.
Ark.
, Pa.
Mich.
, Ga.
Ohio
, Mo.
N. Y.
Conn.
, Pa.
, Pa.
, Pa.
Mich.
N. Y.
Va.
Minn.
, Ill.
Conn.
, Pa.
N. Y.
Mo.

XU